

DEPARTMENT OF THE NAVY

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> 5090 Ser BPMOW.wed/0800 September 27, 2006

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Dear Mr. Narala and Ms. Lee:

Enclosed are cover pages and/or compact discs of the September 27, 2006, *Final Site 1 Landfill 2005 Annual Report* for your records. No comments were received on the April 19, 2006, *Draft Site 1 Landfill 2005 Annual Report*. Please replace the cover pages of the draft report with the enclosed pages. This report summarizes the Site 1 monitoring and maintenance activities for four quarterly events in 2005.

This report has been prepared for the Navy's environmental restoration at Moffett Field. Please contact me, at 619-532-0952, if you have any questions or need clarification.

Sincerely,

RICHARD C. WEISSENBORN
Base Realignment and Closure
Environmental Coordinator
By direction of the Director

Enclosure: 1. Final Site 1 Landfill 2005 Annual Report

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FINAL SITE 1 LANDFILL 2005 ANNUAL REPORT Revision 1 September 27, 2006

FORMER NAVAL AIR STATION MOFFETT FIELD MOFFETT FIELD, CALIFORNIA

Base Realignment and Closure Program Management Office West 1455 Frazee Road, Suite 900 San Diego, California 92108

CTO No. 0086

FINAL SITE 1 LANDFILL 2005 ANNUAL REPORT Revision 1 September 27, 2006

FORMER NAVAL AIR STATION MOFFETT FIELD MOFFETT FIELD, CALIFORNIA

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ABBREVIATIONS AND ACRONYMS

μg/L micrograms per liter

umhos/cm micromhos per centimeter

°C degrees Celsius

bgs below ground surface
BHC benzene hexachloride

CCL calculated concentration limit

COC constituent of concern

DEH Santa Clara County Department of Environmental Health

DO dissolved oxygen
DUP duplicate sample

EPA United States Environmental Protection Agency

ft feet

ft/ft foot per foot
GS ground surface

GV gas vent

J estimated value

LGMW landfill gas monitoring well

LTMP Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan

Maintenance Plan Final Site 1 Landfill Post-Closure Long-Term Maintenance Plan

MDL method detection limit mg/L milligrams per liter

Moffett former Naval Air Station Moffett Field

MP monitoring parameter

msl mean sea level

mV millivolts

NAD North American Datum

NAS Naval Air Station

NASA National Aeronautics and Space Administration

NGVD National Geodetic Vertical Datum

NTU nephelometric turbidity unit

ABBREVIATIONS AND ACRONYMS

(Continued)

ORP oxidation reduction potential

OU1 Operable Unit 1

pH hydrogen (ion) concentration

ROD Record of Decision

SQL sample quantitation limit

SVOC semivolatile organic compound

Tech Memo Final Technical Memorandum, Site 1 Groundwater Evaluation Process

ToC top of casing

TtFW Tetra Tech FW, Inc.

U analyte not detected above method reporting limit

USFWS United States Fish and Wildlife Service

VOC volatile organic compound

EXECUTIVE SUMMARY

This document summarizes the 2005 monitoring and maintenance activities conducted at the Site 1 Landfill and presents the results of evaluating the post-closure groundwater monitoring data collected at the Site 1 Landfill in 2005. The content of this report meets the requirements of the *Moffett Federal Airfield Final Operable Unit 1 Record of Decision* and the Title 27 California Code of Regulations, Subchapter 3. The Site 1 Landfill is located at the northern end of the former Naval Air Station Moffett Field, located near Mountain View, California.

Depth-to-groundwater measurements, groundwater sampling, and methane monitoring were conducted at the Site 1 Landfill in April and October 2005 in accordance with the *Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan* issued in March 2005. Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled due to insufficient water. The analytical monitoring parameters (MPs) include selected metals, volatile organic compounds (VOCs), pesticides, and semivolatile organic compounds (SVOCs).

SVOCs and mercury were analyzed in supplemental groundwater sampling events in January and March 2005 because SVOCs and mercury were not analyzed historically at Site 1. SVOCs and mercury were not detected in these sampling events. Water level measurements also were taken during these supplemental sampling events.

Depth to groundwater measurements were collected from Site 1 Landfill monitoring wells, piezometers, and collection trench wells on January 31, March 7, April 11, and October 3, 2005. The groundwater elevations were similar to previous years. The groundwater flows from north to south at the Site 1 Landfill. The water levels in monitoring well pairs generally show upward potential. Most monitoring wells had seasonal high water levels in March 2005 and seasonal low water levels in October 2005. The seasonal water level fluctuation was on the order of approximately 1 foot.

MP analytical results of 2005 groundwater sampling at Site 1 were evaluated in accordance with the procedures provided in the *Final Technical Memorandum*, *Site 1 Groundwater Evaluation Process* (Tech Memo) issued in April 2004. The Tech Memo provided calculated concentration limits (CCLs) for the MPs that were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater evaluation.

During 2005, no reported VOC or SVOC MP concentrations were greater than the applicable CCLs. Barium concentrations were greater than the applicable CCL in samples from every

monitoring well during both semiannual sampling events in 2005. However, the exceedances were less than historical background levels. Therefore, there was no release from the landfill. Heptachlor was also detected at a concentration greater than the applicable CCL during the April 2005 sampling event. However, the detection was in a sample from a background monitoring well and there was no release from the landfill.

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent wells within the Site 1 Landfill and 4 landfill gas monitoring wells on the perimeter of the landfill. Methane monitoring was also performed at the perimeter of the site at 150-foot intervals at 21 locations. In general, the percentages of methane gas concentrations within the landfill were lower in October 2005 than in April 2005 and were similar to historical concentrations. None of the perimeter wells showed concentrations of methane above the Title 27 concentration limit of 5 percent (all readings were zero percent). Methane was not detected at any of the perimeter monitoring locations in April or October 2005.

Maintenance activities were conducted at the Site 1 Landfill during 2005 in accordance with the *Final Site 1 Landfill Post-Closure Long-Term Maintenance Plan* issued in March 2005. These activities included inspection and repair, as required, of the landfill cover (including cutting the grass and the weeds), the raptor perches, landfill gas vents and monitoring wells, groundwater monitoring wells, piezometers, collection trench wells, and stormwater runoff controls. Santa Clara County Department of Environmental Health inspected Site 1 quarterly in 2005. No problems or deficiencies were identified.

1.0 INTRODUCTION

This document summarizes the 2005 monitoring and maintenance activities conducted at the Site 1 Landfill and presents the results of evaluating the post-closure groundwater monitoring data collected at the Site 1 Landfill in 2005. The content of this report meets the requirements of the *Moffett Federal Airfield Final Operable Unit 1* [OU1] *Record of Decision* [ROD] and Title 27 California Code of Regulations, Subchapter 3. The Site 1 Landfill is located at the northern end of the former Naval Air Station Moffett Field (Moffett), located near Mountain View, California (Figure 1-1 and Figure 1-2). This report was prepared on behalf of the Base Realignment and Closure Program Management Office West. This work was conducted under Contract Task Order Number 0086, issued under Remedial Action Contract No. N68711-98-D-5713.

The purpose of this Annual Report is to present the results of groundwater monitoring and methane monitoring conducted in 2005 for the detection monitoring program at the Site 1 Landfill. It also includes a description of maintenance conducted at the Site 1 Landfill during 2005. Appendices A through F include field sampling data, analytical data, statistical evaluation, analytical data validation packages, groundwater hydrographs, groundwater monitoring point data graphs, and methane monitoring data graphs.

1.1 SITE LOCATION

Moffett is located about 1 mile south of the San Francisco Bay in Santa Clara County, California (see Figure 1-1). Moffett is bounded by United States Fish and Wildlife Service (USFWS) property to the north, Stevens Creek to the west, U.S. Highway 101 to the south, and Lockheed Martin to the east (see Figure 1-2).

The Site 1 Landfill is located in the northernmost portion of Moffett and encompasses approximately 12 acres. The Site 1 Landfill (historically referred to as the Runway Landfill) lies at the north end of the runways between North Perimeter Road, the USFWS property, and the Stormwater Retention Basin (see Figure 1-2).

1.2 2005 MONITORING AND MAINTENANCE ACTIVITIES

Monitoring activities conducted in 2005 at Site 1 included depth to groundwater measurements, groundwater sampling, and methane monitoring. Groundwater monitoring at Site 1 was conducted during 2005 in accordance with the *Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan* (LTMP) (Tetra Tech FW, Inc. [TtFW], 2005a). The groundwater evaluation process was conducted in accordance with the *Technical Memorandum, Site 1 Groundwater Evaluation Process* (Tech Memo) (TtFW, 2004), which was finalized in April 2004. Maintenance activities in 2005 at Site 1 were conducted in accordance with the *Final Site 1 Landfill Post-Closure Long-Term Maintenance Plan* (Maintenance Plan) (TtFW, 2005b).

As approved by the regulatory agencies, the sampling frequency and analyses were modified in accordance with the Tech Memo and the LTMP. Groundwater samples were collected semiannually and analyzed for the Site 1 monitoring parameters (MPs). Methane monitoring was conducted in accordance with Section 4 of the LTMP.

Depth to groundwater measurements, groundwater sampling, and methane monitoring were conducted at the Site 1 Landfill in April and October 2005. Groundwater samples were collected from nine monitoring wells and from collection trench well W1-22. Collection trench well W1-23 could not be sampled because of insufficient water. Table 1-1 provides well construction information for all Site 1 monitoring wells. The analytical MPs include selected metals, volatile organic compounds, pesticides, and semivolatile organic compounds (SVOCs).

SVOCs and mercury sampling were conducted as supplemental groundwater sampling events in January and March 2005 because SVOCs and mercury were not analyzed historically at Site 1. Water level measurements also were taken during these supplemental sampling events.

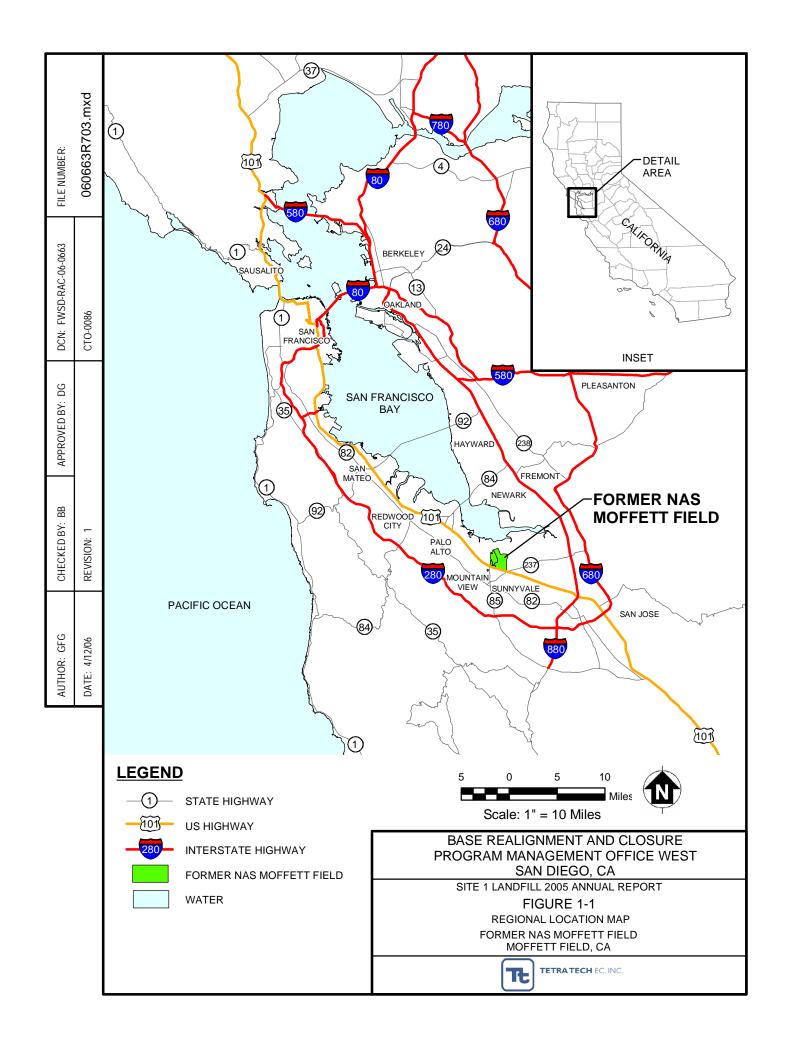
Maintenance activities were conducted at the Site 1 Landfill during 2005 in accordance with the Maintenance Plan. These activities include inspection and repair, as necessary, of the landfill cap, stormwater runoff and control measures, raptor perches, landfill gas vents, perimeter landfill gas monitoring wells, the landfill gas-venting trench and gas vents, collection trench and collection trench wells, and groundwater monitoring wells and piezometers. Site 1 inspections were conducted in January, February, May, August, and November 2005. Inspection checklists and maintenance activities are provided in Appendix G.

Santa Clara County Department of Environmental Health (DEH) also inspects the Site 1 Landfill quarterly. Neither problems nor deficiencies were noted during DEH inspections. The DEH inspection reports are provided in Appendix G.

1.3 BASIS OF DATA EVALUATION

Remedial activities at Moffett are conducted as part of the Installation Restoration Program established by the Department of Defense to identify, evaluate, and control the spread of contaminants from historical hazardous waste sites. The Site 1 Landfill is in OU1. The content of this report meets the requirements stated in the ROD (Navy, 1997) for OU1 and Title 27 California Code of Regulations, Subchapter 3.

The ROD for OU1 (Navy, 1997) summarizes site characteristics and risks, describes and evaluates the remedial alternatives, identifies the selected remedy, and identifies statutory determinations (including compliance with applicable or relevant and appropriate requirements). The major elements of the selected remedy for the Site 1 Landfill are a landfill cap, landfill gasventing trench, subsurface collection trench, groundwater and methane monitoring, institutional controls, and post-closure maintenance. Remedial actions were completed in November 1998, and methane and groundwater monitoring began in 1999.



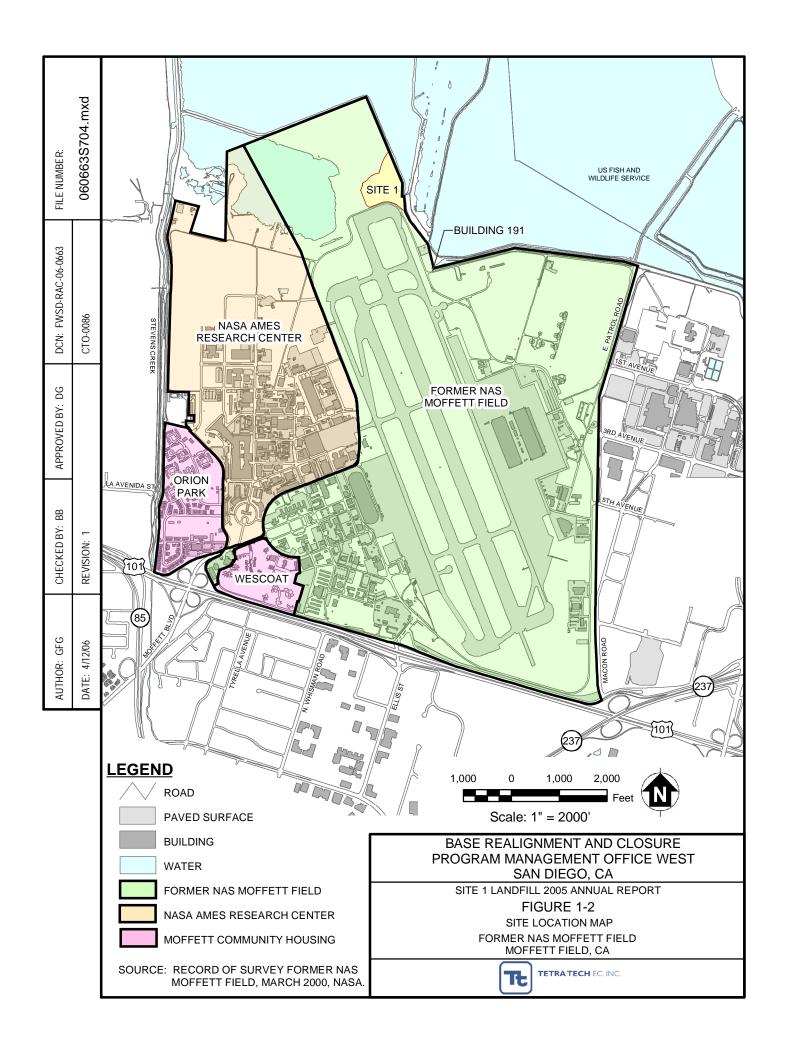


TABLE 1-1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT WELL CONSTRUCTION INFORMATION FORMER NAS MOFFETT FIELD

Location	Northing (feet)	Easting (feet)	Diameter (inches)	ToC Elevation (feet) ¹	GS Elevations (feet) ¹	Total Well Depth (feet bgs)	Depth of Screen Interval (feet bgs)
W1-1R	1982659.6	6111220.3	4	4.83	2.21	25.5	14.3 - 24.3
W1-5	1983794.1	6110944.4	4	3.02	1.92	21.5	14.5 - 19.5
W1-6	1982637.3	6110949.3	4	-0.56	0.47	34.0	15.0 - 30.0
W1-7	1982901.0	6110315.6	4	0.24	0.04	75.0	40.0 - 70.0
W1-8	1983376.9	6111117.5	4	2.95	1.07	25.0	13.0 - 18.0
W1-12R	1983385.0	6110711.3	4	0.17	0.08	22.0	11.7 - 21.7
W1-14	1982829.9	6110399.9	2	2.46	-0.72	14.1	4.1 - 14.1
W1-15	1982790.0	6110909.9	2	2.60	-0.25	14.4	4.4 - 14.4
W1-16	1982900.5	6111204.4	2	3.82	1.35	15.4	5.4 - 15.4
W1-19	1982709.2	6110545.2	2	1.98	-0.43	19.0	14.0 - 19.0
W1-20	1982767.6	6110817.0	2	2.72	-0.11	19.0	14.0 - 19.0
$W1-22^2$	1983496.9	6110774.9	8	1.12	2.10	7.0	2.5 - 7.0
$W1-23^2$	1983212.8	6110510.7	8	0.83	2.18	7.0	2.5 - 7.0
W1-24	1983156.0	6111212.9	4	4.27	1.88	24.5	6.0 - 16.0
PZ1-18 ³	1982709.9	6110549.7	2	2.25	-0.29	40.0	30.0 - 40.0
PZ1-21 ³	1982770.6	6110822.3	2	2.28	-0.13	40.0	30.0 - 40.0

Notes:

Positions were determined using NASA Ames Research Center Control Monument ARC-32, a disc set flush in concrete, 6.5 feet north of northeast edge of pavement (Patrol Road) and 75 feet east of Perimeter Road, and 2.5 feet west of the chain-link fence.

Northings and eastings are shown in NAD83, elevations are shown in NGVD29.

Measuring point is recorded from top of well casing.

The screen interval for replacement wells W1-1R and W1-12R are similar to those of the original wells they replaced (within 1 foot of the screen interval for the original wells).

Abbreviations and Acronyms:

bgs - below ground surface

GS - ground surface

NAD - North American Datum

NAS - Naval Air Station

NASA - National Aeronautics and Space Administration

NGVD - National Geodetic Vertical Datum

ToC - top of casing

¹ ToC referenced to survey conducted during November 2002, with the exception of W1-12R and W1-1R, which were surveyed in October 2003 and November 2004, respectively.

² W1-22 and W1-23 are collection trench wells and not groundwater monitoring wells.

³ PZ1-18 and PZ1-21 are piezometers and not groundwater monitoring

The evaluation of Site 1 groundwater analytical results presented in this report was conducted in accordance with the Tech Memo (TtFW, 2004). The Tech Memo documented the groundwater detection monitoring program, MPs, calculated concentration limits (CCLs), and described the statistical evaluation process for the Site 1 Landfill post-closure monitoring. The MPs are a set of parameters that provide a reliable indication of a release from a landfill. The MPs include physical and analytical parameters that are a subset of the constituents of concern (COCs). The CCLs were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater evaluation. If analytical results are less than the CCLs, then no additional evaluation is required, and there is no release from the landfill. If CCLs are exceeded, then additional evaluation of upgradient (background) and downgradient data is conducted to determine whether there has been a release from the landfill. Appendices A and B of this document contain the field sampling data and analytical summary and CCL evaluation tables.

1.4 REPORT ORGANIZATION

This report is divided into the following sections:

- **Section 1.0: Introduction,** presents the site location, monitoring and maintenance activities, the basis of the data evaluation, and the report organization.
- **Section 2.0: Groundwater Hydraulics,** presents the Site 1 groundwater gradient, flow direction, and water level trends.
- Section 3.0: Groundwater Sampling, summarizes the Site 1 groundwater analytical data and presents the results of the evaluation of the groundwater data.
- Section 4.0: Methane Monitoring, summarizes the Site 1 methane monitoring data in the landfill gas monitoring wells, the landfill gas vents, and the perimeter gas monitoring points.
- Section 5.0: Conclusions, presents the conclusions and recommendations.
- **Section 6.0: References,** presents the references for this report.
- **Tables and figures** are incorporated into the text.
- **Appendix A** contains the field sampling data sheets.
- **Appendix B** contains a summary of the analytical tables and the CCL tables.
- **Appendix C** presents the Site 1 groundwater validated analytical results.
- **Appendix D** provides hydrographs of the Site 1 groundwater monitoring wells, piezometers, and collection trench wells.
- **Appendix E** provides time-series concentration graphs of monitoring points for each monitoring parameter that was detected in 2005.
- **Appendix F** provides time-series methane concentration graphs of the landfill gas monitoring wells and landfill gas vents.

- **Appendix G** provides the 2005 general site inspection reports and the 2005 Santa Clara County landfill inspection reports.
- **Appendix H** provides correspondence from 2005.

2.0 GROUNDWATER HYDRAULICS

This section describes the Site 1 hydrogeology, groundwater gradient and flow direction, and water level trends.

The stratigraphy of the Site 1 Landfill is a complex interfingering of fine-grained units representing the boundary between alluvial and estuarine environments and fluctuations of the boundary caused by changes in sea level. Lithologic logs from shallow well borings indicate that the uppermost materials (zero to 60 feet below ground surface) are comprised of silts to silty clays, which are brown to black and moderately plastic in nature. Intermittent throughout the upper 60 feet are interfingered silty sands and clayey gravels, which are medium gray to black or brown. These materials are present as lenses or stringers and are not laterally or vertically continuous throughout the site.

Most of the groundwater elevations in the Site 1 Landfill groundwater monitoring wells are below mean sea level. The vadose zone, between the saturated zone and the land surface, consists of either imported fill material or clayey soils.

Shallow subsurface soil samples within the Site 1 Landfill and surrounding the site, taken below the landfill but above the permeable lenses within the upper portion of the shallow aquifer, were tested for porosity and permeability. The results indicate that soils below the landfill and above the shallow aquifer are generally clays with hydraulic conductivity values in the 10^{-8} centimeter-per-second range (appropriate for clayey material [Freeze and Cherry, 1979]).

Groundwater in the upper portion of the shallow aquifer beneath the landfill generally flows north to south (Tetra Tech FW, Inc. [TtFW], 2004). The regional groundwater flow direction is south to north toward San Francisco Bay. The southward gradient underlying the Site 1 Landfill is opposite from the regional gradient because of active pumping of the Moffett storm drainage system. Pumping occurs at Building 191, located south of the Site 1 Landfill (see Figure 1-2). Building 191 began operating in the early 1950s. It consists of a subsurface concrete-lined vault, equipped with a passive pump, and receives water from nearby ditches and a French drain system underneath the runways (Tetra Tech EM, Inc., 2000). The pump station influences local groundwater gradients and reverses the local natural groundwater flow direction because the drainage system that feeds the pump station is below the water table in some areas.

Three water bodies are proximal to the Site 1 Landfill: the man-made ephemeral Stormwater Retention Basin to the north, former Jagel Slough to the southeast, and United States Fish and Wildlife Service property to the east (Figure 2-1). It appears that low-permeability barriers exist between the water bodies and the Site 1 Landfill, limiting subsurface water movement (Navy, 1997). As a result, head differences are maintained between each water body (International

Technology Corporation, 1993). Potential for flow from the landfill to the other bodies exists, but these restrictive barriers limit actual flow. Low-hydraulic conductivity, high-organic contents associated with the clays, and low-contaminant source concentrations combine to restrict flow and limit potential contaminant migration (Navy, 1997).

2.1 GROUNDWATER GRADIENT AND FLOW DIRECTION

Field activities, conducted at the Site 1 Landfill in 2005, included four water level gauging events at monitoring wells, piezometers, and collection trench wells (Table 2-1). This section describes the collection of 2005 water level measurements and summarizes groundwater flow direction beneath the Site 1 Landfill. Figure 2-1 shows the locations for Site 1 water level measurements.

Measurements of depth to groundwater were made using an electronic measuring tape with markings every hundredth of a foot. All water levels were measured within a 24-hour period. Measurements were subtracted from surveyed measuring point elevations to calculate the groundwater level elevations.

Depth-to-groundwater measurements were collected from 12 monitoring wells, 2 piezometers, and 2 collection trench wells at the Site 1 Landfill on:

- January 31, 2005
- March 7, 2005
- April 11, 2005
- October 3, 2005

Groundwater elevations for all Site 1 Landfill groundwater measurements were below sea level for 2005. The potentiometric surfaces of the upper portion of the shallow aquifer, shown on Figure 2-2 through Figure 2-5, were based on groundwater elevations in monitoring wells of similar construction and screened in the upper portion of the shallow aquifer. For example, piezometers PZ1-18 and PZ1-21 and wells W1-6 and W1-7 were not considered in the contouring because they are screened at greater depths than the other wells and are not considered representative of the groundwater elevations in the upper portion of the shallow aquifer. In addition, collection trench wells W1-22 and W1-23 were not included, as they are screened within the collection trench north of the landfill and are not considered representative of groundwater elevations.

In general, the groundwater elevations were similar to previous years. Generally, the groundwater flows from north to south at the Site 1 Landfill. The gradient from north to south (W1-5 to W1-20) was approximately:

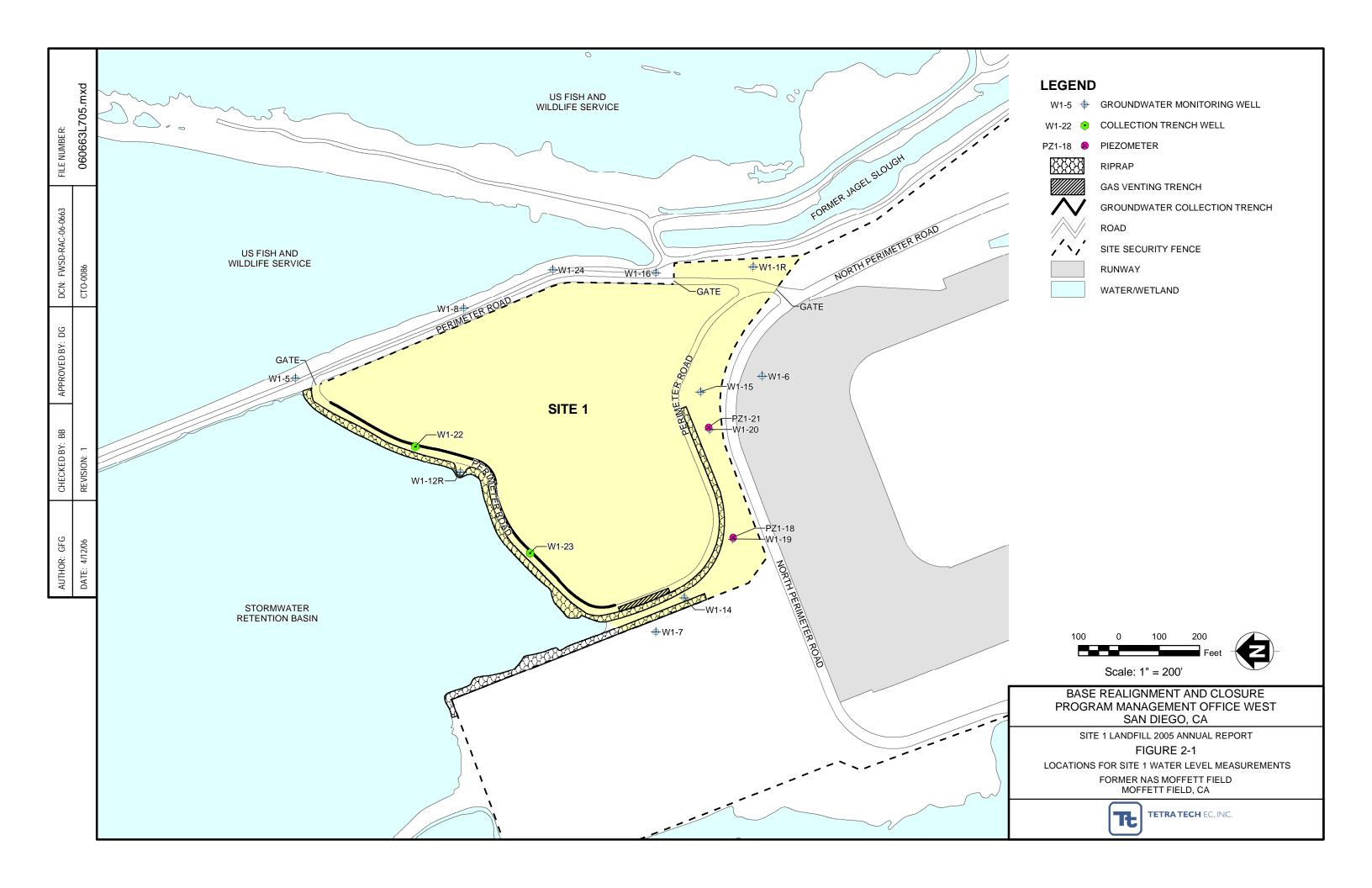


TABLE 2-1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT 2005 GROUNDWATER ELEVATIONS FORMER NAS MOFFETT FIELD

	ToC	January 31, 2005	January 31, 2005		March 7, 2005	April 11, 2005	April 11, 2005	October 3, 2005	October 3, 2005
Location	Elevation	Depth to Water ¹	Water Elevation	Depth to Water ¹	Water Elevation	Depth to Water ¹	Water Elevation	Depth to Water ¹	Water Elevation
	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)
W1-1R	4.83	7.77	-2.94	7.21	-2.38	7.55	-2.72	8.29	-3.46
W1-5	3.02	5.32	-2.30	4.80	-1.78	5.05	-2.03	5.68	-2.66
W1-6	-0.56	2.11	-2.67	2.21	-2.77	1.98	-2.54	2.26	-2.82
W1-7	0.24	2.98	-2.74	2.53	-2.29	2.55	-2.31	3.33	-3.09
W1-8	2.95	5.35	-2.40	4.88	-1.93	5.08	-2.13	5.76	-2.81
W1-12R	0.17	2.58	-2.41	2.02	-1.85	2.29	-2.12	3.04	-2.87
W1-14	2.46	5.21	-2.75	4.60	-2.14	4.88	-2.42	5.77	-3.31
W1-15	2.60	5.43	-2.83	4.82	-2.22	5.10	-2.50	5.90	-3.30
W1-16	3.82	7.50	-3.68	7.10	-3.28	6.69	-2.87	7.01	-3.19
W1-19	1.98	4.76	-2.78	4.18	-2.20	4.52	-2.54	5.37	-3.39
W1-20	2.72	5.57	-2.85	5.02	-2.30	5.28	-2.56	6.06	-3.34
$W1-22^2$	1.12	3.45	-2.33	2.95	-1.83	2.40	-1.28	3.69	-2.57
$W1-23^2$	0.83	5.61	-4.78	5.60	-4.77	5.48	-4.65	5.64	-4.81
W1-24	4.27	6.98	-2.71	6.38	-2.11	6.68	-2.41	7.34	-3.07
PZ1-18 ³	2.25	5.10	-2.85	5.04	-2.79	4.62	-2.37	4.74	-2.49
PZ1-21 ³	2.28	5.21	-2.93	4.56	-2.28	4.81	-2.53	5.60	-3.32

Note:

Abbreviations and Acronyms:

ft – feet

msl – mean sea level

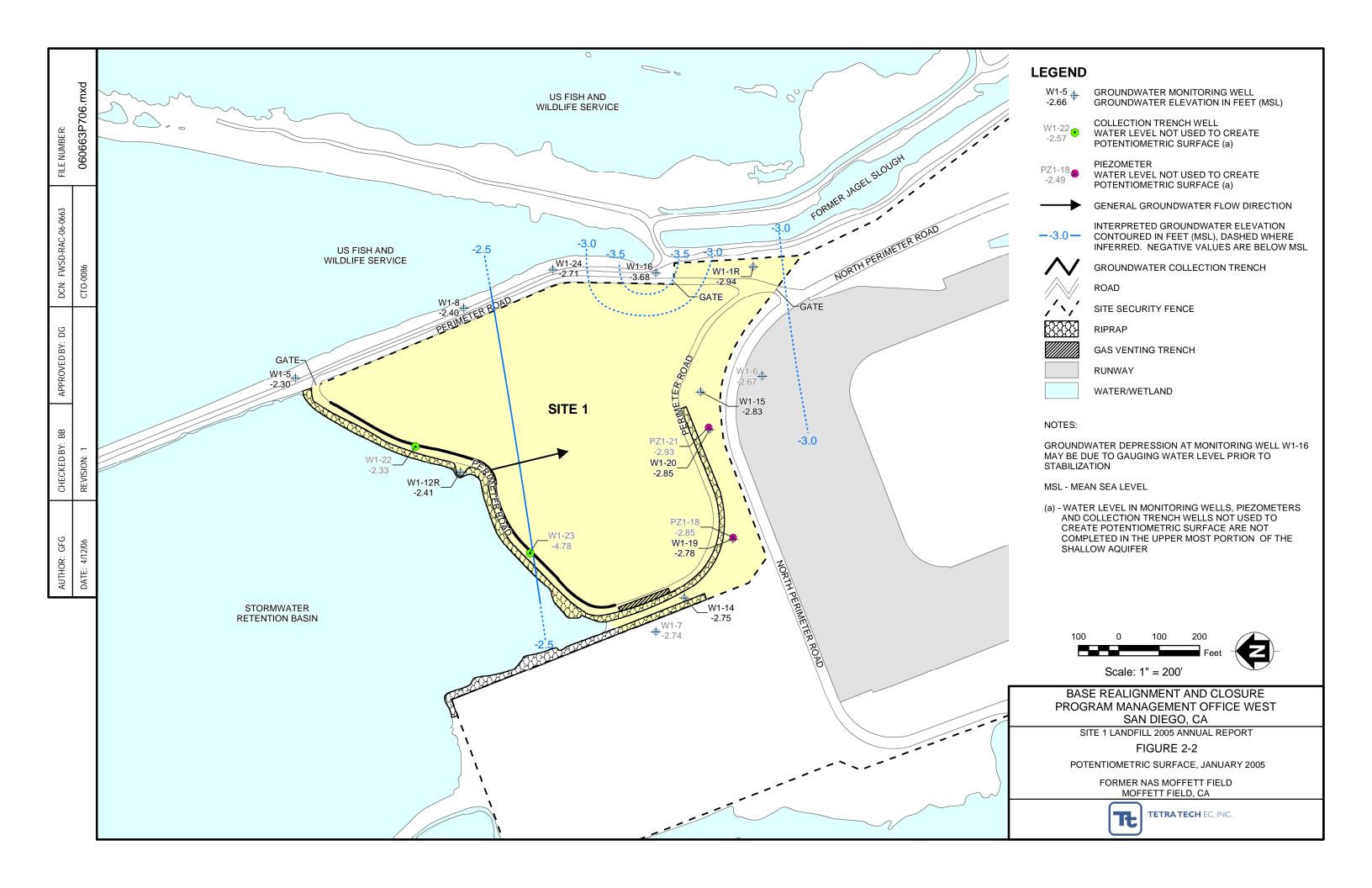
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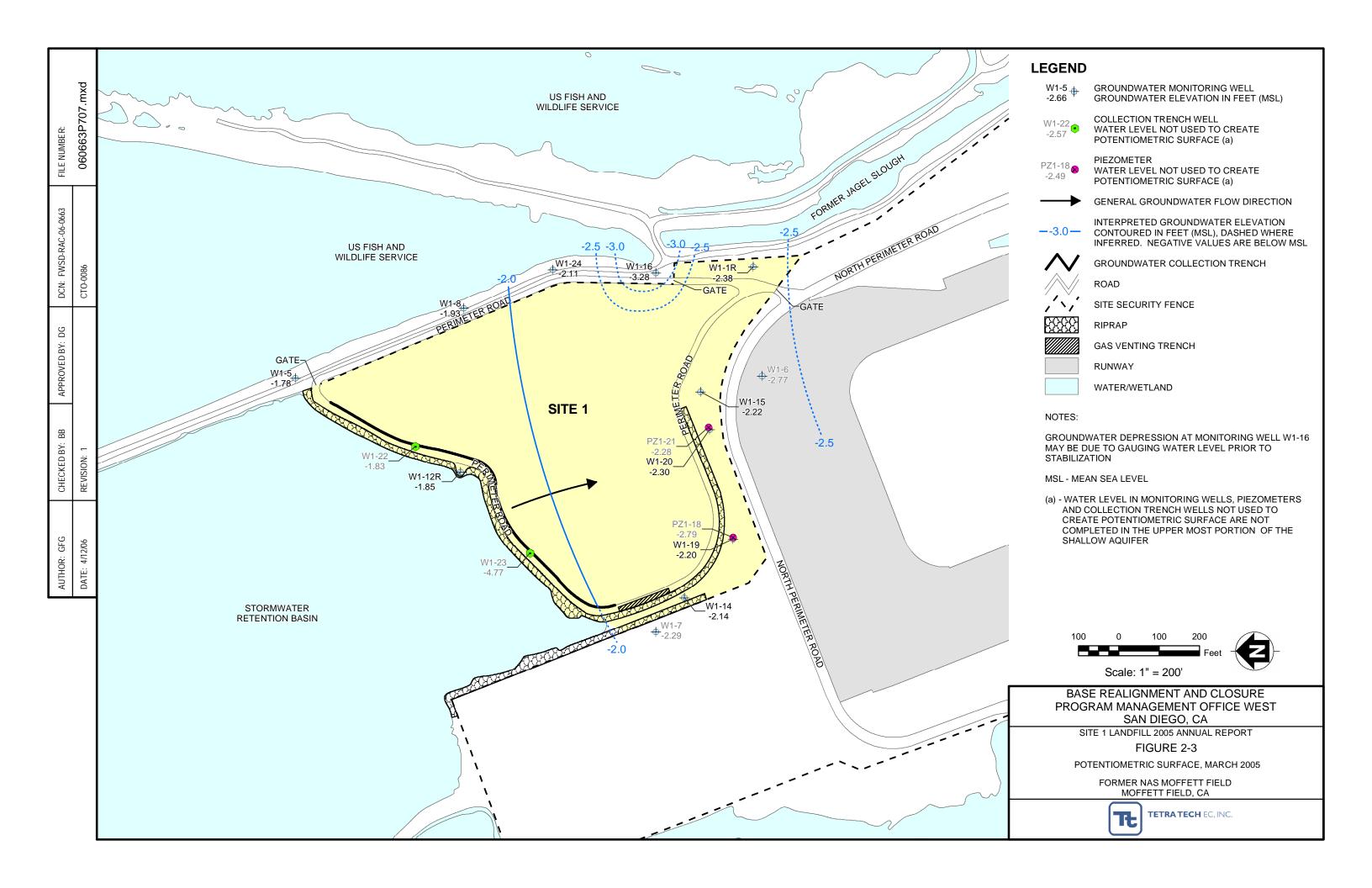
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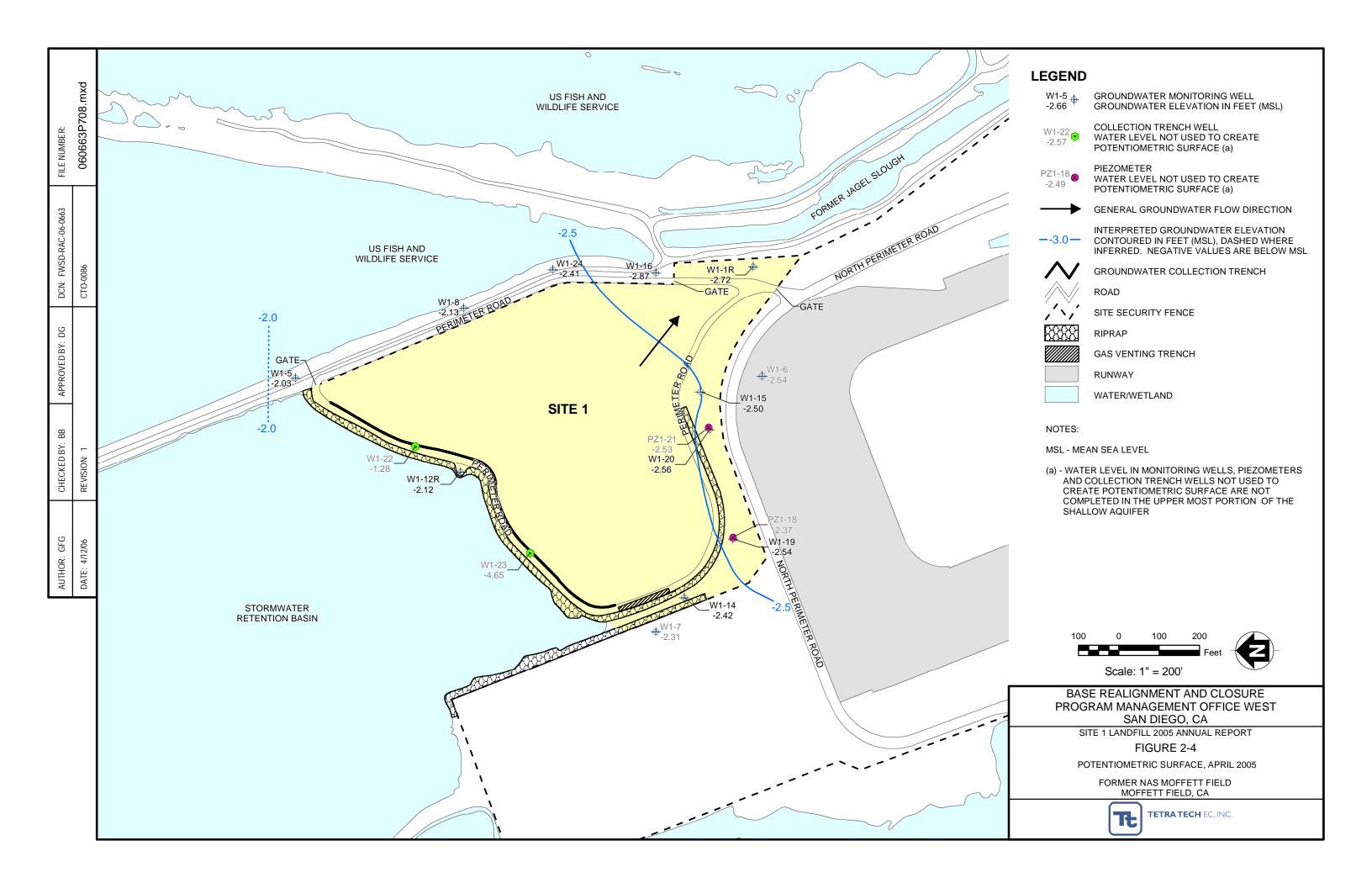
 $^{^{1}}$ - Depth to water may vary from field sampling data forms (Appendix A). Data were collected on separate dates.

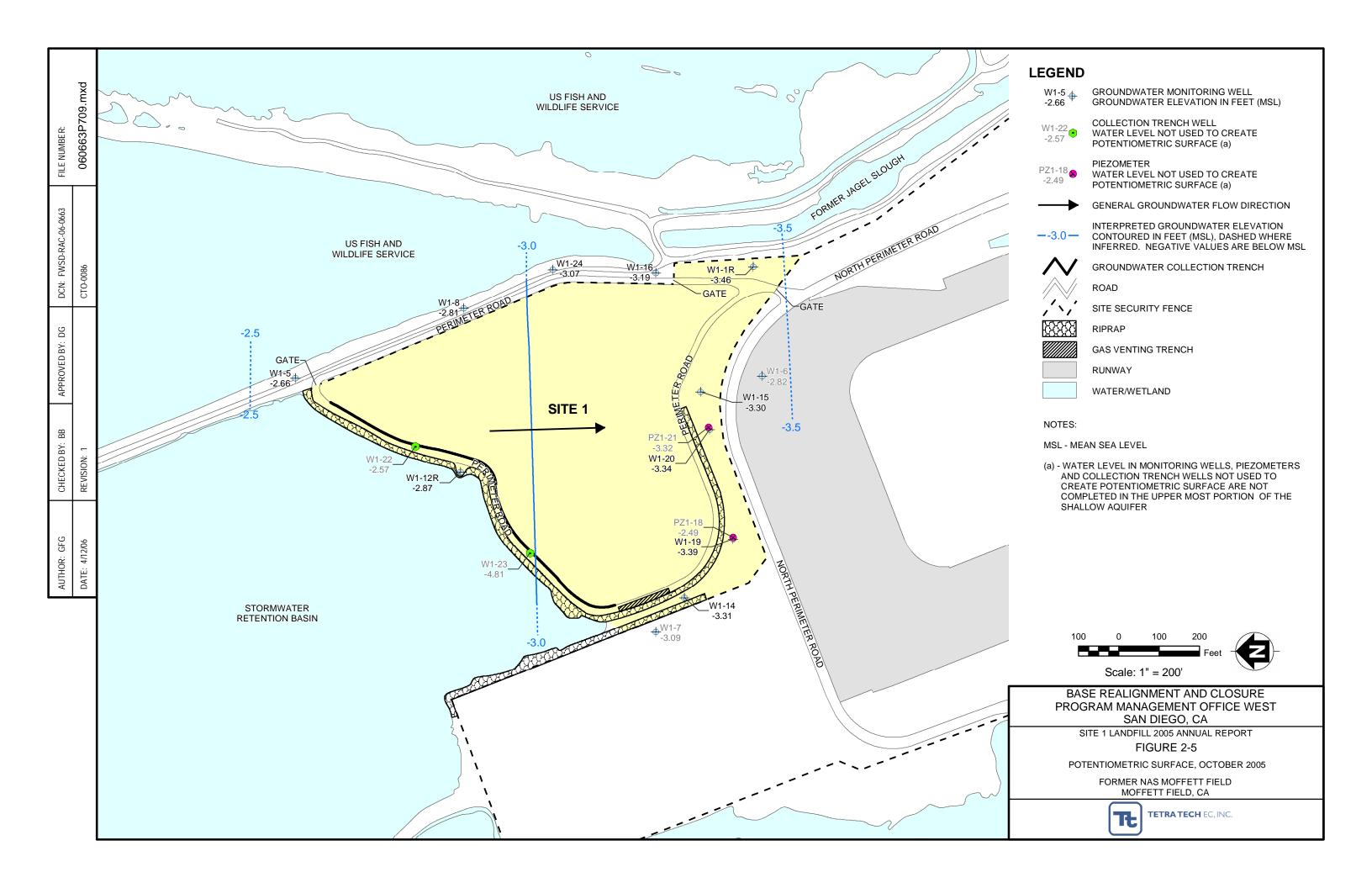
² - W1-22 and W1-23 are collection trench wells, not groundwater monitoring wells.

³ - PZ1-18 and PZ1-21 are piezometers, not groundwater monitoring wells.









- 0.0005 foot per foot (ft/ft) in January 2005
- 0.0005 ft/ft in March 2005
- 0.0005 ft/ft in April 2005
- 0.0007 ft/ft in October 2005

The water levels in monitoring well pair W1-19/PZ1-18 (see Figure D-17 in Appendix D) show upward potential since 1999 (the water levels in PZ1-18 are higher than in W1-19, and PZ1-18 is completed 11 feet deeper in the A aquifer than W1-19), with the exception of measurements collected on August 18, 2004, and January 31 and March 7, 2005. The water levels in monitoring well pair W1-20/PZ1-21 (see Figure D-18 in Appendix D) show upward potential since 1999 (the water levels in PZ1-21 are higher than in W1-20, and PZ1-21 is completed 11 feet deeper in the A aquifer than W1-20), with the exception of measurements collected on July 12, 1999, January 24, 2000, January 16, 2001, and January 31, 2005. Water levels in the W1-20/PZ1-21 pair have been generally within a couple hundredths of a foot of each other since 1999.

2.2 WATER LEVEL TRENDS

Appendix D contains groundwater hydrographs for the 12 monitoring wells and 2 piezometers at the Site 1 Landfill. Some monitoring wells and piezometers show a slight upward (W1-1/1R, W1-12/12R, W1-19, W1-20, PZ1-18, and PZ1-21) or slight downward (W1-16) long-term water level trend, while the remainder of the monitoring wells showed a flat long-term trend. All monitoring wells and piezometers show a seasonal water level variation, with a high-water level elevation near the end of the rainy season (March) and a low-water level elevation near the end of the dry season (October).

The following water level trends were observed in 2005:

- Monitoring wells had seasonal high water levels in March.
- Monitoring wells had seasonal low water levels in October.

The seasonal water level fluctuation was on the order of 1 foot.

3.0 GROUNDWATER SAMPLING

Groundwater monitoring at Site 1 was conducted during 2005 in accordance with the *Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan* (Tetra Tech FW, Inc. [TtFW], 2005a) and the *Final Technical Memorandum*, *Site 1 Groundwater Evaluation Process* (Tech Memo) (TtFW, 2004).

Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled because of insufficient water. Samples were analyzed for the monitoring parameters (MPs). MPs include physical and analytical parameters. The physical MPs are temperature, conductivity, dissolved oxygen, oxidation/reduction potential, pH, and turbidity. The analytical MPs were selected based on Title 27 California Code of Regulations criteria and are described below (TtFW, 2004). Locations for Site 1 groundwater and collection trench sampling are shown in Figure 3-1. Field sampling data sheets for the April and October 2005 groundwater sampling events are included in Appendix A.

Six supplemental groundwater sampling events were conducted in 2004 and two additional supplemental groundwater sampling events were conducted in January and March 2005 to develop the database required for the Tech Memo evaluation of dissolved mercury and the semivolatile organic compounds (SVOCs). Field sampling data sheets for the supplemental groundwater sampling events are included in Appendix A.

3.1 ANALYTICAL RESULTS

Tables B-1 through B-4 in Appendix B of this document present the analytical summary tables for semiannual and supplemental samples collected in 2005. Appendix C of this document presents the validated analytical data (provide on compact disk [CD] only). Analytical testing for 2005 was conducted in accordance with the Tech Memo (TtFW, 2004), as described in the following section.

3.1.1 Analytical Testing

Groundwater samples collected in April and October 2005 at the Site 1 Landfill were analyzed for the following analytical MPs:

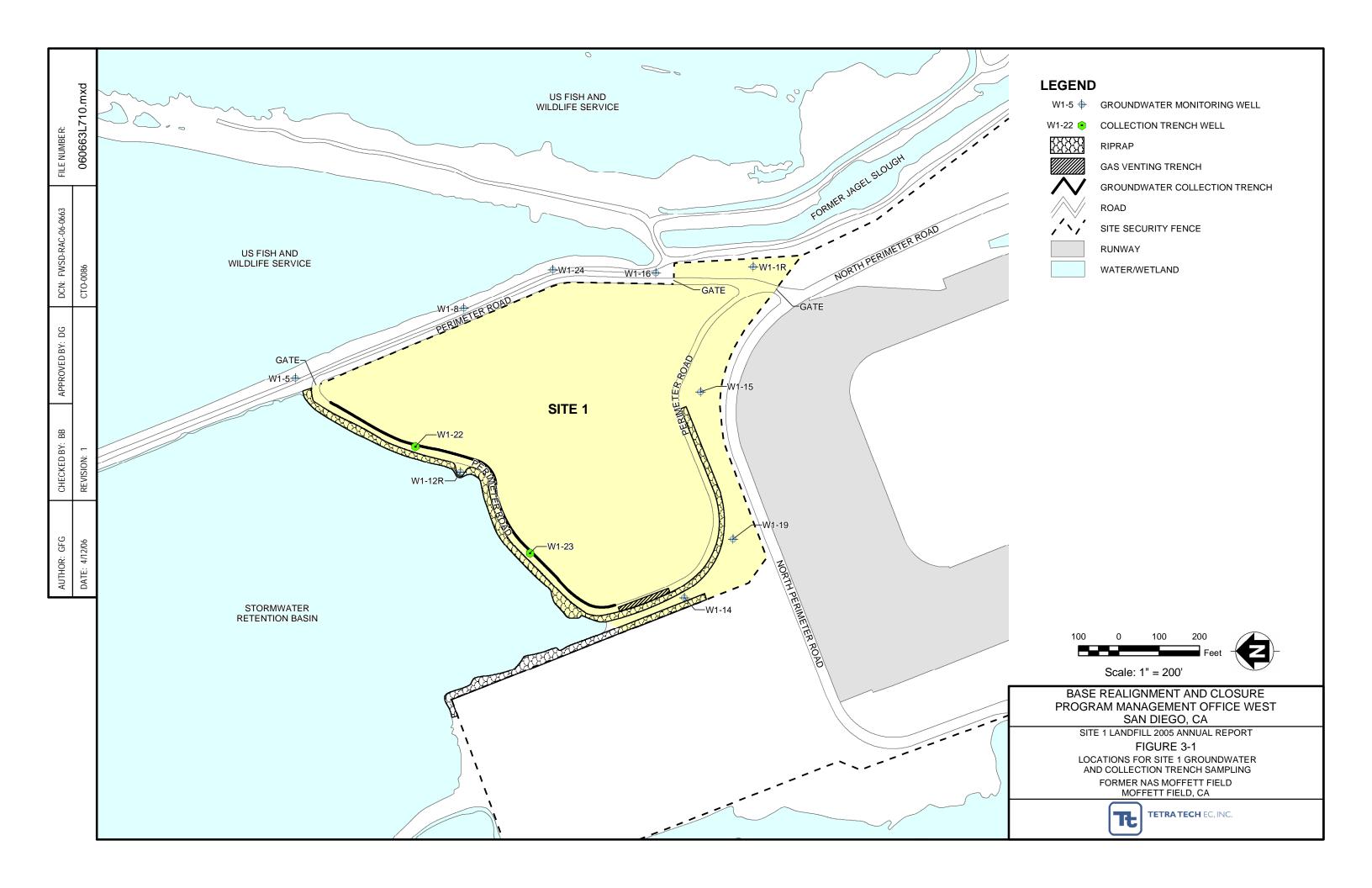
- Volatile organic compounds (VOCs) using United States Environmental Protection Agency (EPA) Method 8260B:
 - M,p-xylene
 - Trichloroethene

- Vinyl chloride
- Pesticides using EPA Method 8081A:
 - Beta-benzene hexachloride
 - Heptachlor
- Dissolved metals using EPA Method 200.8:
 - Arsenic
 - Barium
 - Cobalt
 - Copper
- SVOCs using EPA Method 8270C:
 - 2,4,6-trichlorophenol
 - 2-methylphenol

Supplemental groundwater samples collected in January and March 2005 at the Site 1 Landfill were analyzed for the following:

- Dissolved mercury using EPA Method 7470A
- SVOCs using EPA Method 8270C

Twelve samples, including two duplicate samples, were collected from nine groundwater monitoring wells and one collection trench well at the Site 1 Landfill for each of the semiannual sampling events. Eleven samples, including one duplicate sample, were collected from nine groundwater monitoring wells and one collection trench well at the Site 1 Landfill for each of the supplemental sampling events. The analytical results from the collection trench well W1-22 are not considered representative of chemical concentrations of the shallow aquifer. The collection trench wells were not designed to monitor groundwater at the site. The collection trench wells are screened in a collection trench, located on the north side of the landfill, which was installed to protect the adjacent Stormwater Retention Basin. The collection trench wells are shallow and screened in permeable fill material placed in the collection trench. An impermeable barrier was installed on the north side of the collection trench to inhibit groundwater influence. Because of well construction relative to the collection trench and the shallow aquifer, the collection trench wells are not considered to be useful monitoring points for collecting representative samples of groundwater conditions. However, the collection trench wells are sampled at the same frequency as the monitoring wells in accordance with the Moffett Federal Airfield Final Operable Unit 1 Record of Decision (Navy, 1997) requirements.



3.1.2 Statistical Evaluation

Table 3-1 presents the MPs and the calculated concentration limits (CCLs), as detailed in the Tech Memo (TtFW, 2004). CCLs were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater data evaluation. If analytical results are less than the CCLs, then no additional evaluation is required, and there is no release from the landfill. If CCLs are exceeded, then additional evaluation of the upgradient (background) and downgradient data is conducted to determine whether there has been a release from the landfill. If upgradient concentrations are higher than downgradient concentrations, there is no release from the landfill. Conversely, if downgradient concentrations are higher than upgradient concentrations, additional sampling events are conducted and evaluated to determine whether there has been a release from the landfill. Tables 3-2 and 3-3 present the physical MPs and MP analytes detected in groundwater samples from monitoring wells and the collection trench at Site 1 during April and October 2005 sampling events. Tables B-5 and B-6 provide the statistical evaluation summary.

3.1.3 Visual Trends

Appendix E contains groundwater monitoring point data graphs for monitoring wells with at least one detection in 2005, and a total of at least three historical detected concentrations (1999 through 2005). Groundwater monitoring point data graphs are specified in Title 27 California Code of Regulations, Section 20415(e)(14). Trends were determined by visually evaluating the graphs for increasing concentration trends, decreasing concentration trends, or relatively consistent (flat) concentration trends.

Arsenic, barium, cobalt, and copper were all detected at least once in 2005, and each dissolved metal had at least three historical detected concentrations (1999 through 2005) in samples from every Site 1 groundwater monitoring well. In general, arsenic concentrations show a decreasing trend, barium concentrations show a flat trend, cobalt concentrations show a flat to decreasing trend, and copper concentrations show a decreasing trend. All of these metals are found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

No VOCs, SVOCs, or pesticides were detected in 2005 with a total of at least three historically detected concentrations (1999 through 2005) in samples from a Site 1 groundwater monitoring well. Therefore, no other trends exist.

3.2 GROUNDWATER QUALITY EVALUATION

Results from the 2005 groundwater sampling events are tabulated in Appendix B of this document and summarized below.

3.2.1 April 2005 Sampling Event

During the April 2005 sampling event, the dissolved metal MPs (arsenic, barium, cobalt, and copper) and one pesticide MP (heptachlor) were detected in samples from monitoring wells at concentrations greater than their respective project reporting limits (see Table 3-2). Neither VOC nor SVOC MPs were detected in the April 2005 sampling event. The following details how barium and heptachlor exceeded their respective CCLs:

- The barium CCL was exceeded in samples from every monitoring well. However, all CCL exceedances either occurred in samples from a background well or were less than historical background values, and thus were removed from further consideration.
- Heptachlor was detected in a sample from background monitoring well W1-5. Since the heptachlor CCL was exceeded in a sample from a background well, it was removed from further consideration.

Also during the April 2005 sampling event, the dissolved metal MPs were detected in a sample from trench well W1-22 at concentrations greater than their respective project reporting limits (see Table 3-2). However, the analytical results from the collection trench well are not considered representative of chemical concentrations of the shallow aquifer (see Section 3.1.1).

3.2.2 October 2005 Sampling Event

During the October 2005 sampling event, the dissolved metal MPs (arsenic, barium, cobalt, and copper) and one pesticide MP (heptachlor) were detected in samples from monitoring wells at concentrations greater than their respective project reporting limits (see Table 3-3). No VOC or SVOC MP was detected in the October 2005 sampling event. The following details how barium exceeded its CCL:

• The barium CCL was exceeded in samples from every monitoring well. Barium occurred in samples from a background well or was below historical background values. Thus, it was removed from further consideration.

Also during the October 2005 sampling event, the dissolved metal MPs and one pesticide MP (beta-benzene hexachloride) were detected in samples from trench well W1-22 at concentrations greater than their respective project reporting limits (see Table 3-3). However, the analytical results from the collection trench well are not considered representative of chemical concentrations of the shallow aquifer (see Section 3.1.1).

3.2.3 Supplemental Sampling Events

There were no detections of dissolved mercury or of any SVOC greater than the project reporting limit for the supplemental groundwater samples collected in January and March 2005 (see Tables B-3 and B-4 of Appendix B).

TABLE 3-1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT MONITORING PARAMETERS AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

MP	MDL ^a (μg/L)	SQL ^a (µg/L)	Calculated Concentration Limit (µg/L)
Metals			
Arsenic	0.22	1	89.64
Barium	0.18	10	40.00
Cobalt	0.2	1	230.00
Copper	0.19	1	5.15
VOCs			
m,p-Xylene	0.3	1	4.11
Trichloroethene	0.2	0.5	9.49
Vinyl chloride	0.2	1	61.95
Pesticides			
beta-BHC	0.01	0.05	340.00
Heptachlor	0.01	0.05	0.36
SVOCs			
2,4,6-Trichlorophenol	5	10	411.28
2-Methylphenol	5	10	11.31

Note:

^a The MDL and SQL are based on the specific analytical methods listed in Section 4.1 of the *Technical Memorandum, Site 1 Groundwater Evaluation Process* (TtFW, 2004). MDLs are likely to change slightly for each analysis, as the MDL depends on both sample and instrument conditions at the time of analysis. For those cases where the CCLs have been made equal to the MDL, the CCL may change slightly for each analysis event.

Abbreviations and Acronyms:

 $\mu g/L - micrograms \ per \ liter$

BHC – benzene hexachloride

CCL - calculated concentration limit

MP - monitoring parameter

MDL - method detection limit

NAS - Naval Air Station

 $SQL\ -\ sample\ quantitation\ limit$

SVOC - semivolatile organic compound

TtFW - Tetra Tech FW, Inc.

VOC - volatile organic compound

TABLE 3-2 Page 1 of 1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT APRIL 2005 DETECTED ANALYTES IN GROUNDWATER FORMER NAS MOFFETT FIELD

	86-S1-108	86-S1-109	86-S1-110	86-S1-112	86-S1-113	86-S1-114	86-S1-115	86-S1-116	86-S1-117	86-S1-118	86-S1-119	86-S1-120
MP	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	4/11/05	4/11/05	4/11/05	4/11/05	4/12/05	4/12/05	4/12/05	4/12/05	4/12/05	4/12/05	4/13/05	4/13/05
Dissolved Metals (µg/L)	Dissolved Metals (µg/L) EPA Method 200.8											
Arsenic	0.834 J	4.61 J	2.2 J	4.54 J	1.55 J	1.63 J	2.76 J	1.05 J	2.09 J	1.77 J	6.35 J	5.43 J
Barium	73.3	145 J	83.8	184	74.3	73.4 J	208	507	130	130 J	218	244
Cobalt	13.5	1.91 J	9.93	6.01	4.67	6.37	4.33	1.28	2.74	2.4 J	6.29	4.99
Copper	0.602 J	0.205 J	0.814 J	0.225 J	0.528 J	0.573 J	0.831 J	0.142 J	0.329 J	0.434 J	0.243 J	0.214 J
Pesticides (µg/L)	EPA Method	8081A										
Heptachlor	0.047 U	0.048 U	0.047 U	0.047 U	0.053 U	0.047 U	0.047 U	1.2	0.048 U	0.047 U	0.048 U	0.048 U
Field Measurements												
DO (mg/L)	0.09	0.04	0.05	0.1	0.14	=	0.09	0.1	0.09	1	0.15	0.11
рН	6.8	6.9	6.9	7	7.1	=	7	7.1	7.3	1	7.1	6.9
ORP (mV)	316	37	186	104	242	-	100	96	256	-	-97	-123
Temperature (°C)	22.8	24.5	22.8	21.2	13.9	=	22.6	24.1	21.8	1	16.4	18.6
Conductivity (µmhos/cm)	86170	60919	85611	80166	49547	-	27540	72228	76714	-	54692	60787
Turbidity (NTU)	0.75	6.4	1.3	2.9	12	-	2.2	5.9	1.9	-	5.8	3.2

Notes:

Shading indicates concentration above the calculated concentration limit.

Abbreviations and Acronyms:

 $\mu g/L - micrograms per liter$

 $\mu mhos/cm-micromhos\ per\ centimeter$

°C – degrees Celsius

DO - dissolved oxygen

DUP - duplicate sample

EPA - United States Environmental Protection Agency

J - estimated value

mg/L - milligrams per liter

MP - monitoring parameter

mV - millivolts

NAS - Naval Air Station

NTU - nephelometric turbidity unit

ORP - oxidation/reduction potential

pH - hydrogen (ion) concentration

U – analyte not detected above project reporting limit

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1.

TABLE 3-3 Page 1 of 1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT OCTOBER 2005 DETECTED ANALYTES IN GROUNDWATER FORMER NAS MOFFETT FIELD

	86-S1-124	86-S1-125	86-S1-126	86-S1-128	86-S1-129	86-S1-130	86-S1-131	86-S1-132	86-S1-133	86-S1-134	86-S1-135	86-S1-136
MP	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	10/4/05	10/4/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05
Dissolved Metals (µg/L) EPA Method 200.8												
Arsenic	1.61	4.47	2.97	5.28	2.53	1.93	0.95	1.95 J	3.86	4.33 J	7.25	7.72
Barium	107	176	99.9	159	72	1260	576	556 J	150	150 J	398	458
Cobalt	7.69 J	3.32 J	9.69 J	8.34 J	5.25 J	0.36 J	1.73 J	2.99 J	2.27 J	2.28 J	2.87 J	7.28 J
Copper	2.64 J	0.1 J	0.494 J	0.075 J	0.205 J	0.135 J	0.031 J	0.06 J	0.099 J	0.093 J	0.14 J	0.125 J
Pesticides (µg/L)	EPA Method	8081A										
beta-BHC	0.048 U	0.048 U	0.047 U	0.047 U	0.049 U	0.25	0.05 U	0.048 U	0.048 U	0.047 U	0.05 U	0.049 U
Heptachlor	0.048 U	0.048 U	0.047 U	0.047 U	0.02 J	0.049 U	0.05 U	0.048 U	0.048 U	0.047 U	0.05 U	0.049 U
Field Measurements												
DO (mg/L)	0.2	0.26	0.26	0.23	0.13	0.1	0.11	-	0.11	-	0.2	0.11
рН	6.5	6.7	6.6	6.7	6.5	6.3	6.5	-	6.7	-	6.5	6.5
ORP (mV)	316	-32	185	74	164	37	63	-	59	-	8	17
Temperature (°C)	20.6	21.2	15.6	18.3	19.9	23.4	23.2	-	22.8	-	20.5	21
Conductivity (µmhos/cm)	69802	64824	68499	67110	68690	43570	57874	-	60648	-	60221	64722
Turbidity (NTU)	0	6.4	1.8	2.6	21.2	15	2.6	-	8.9	-	6.3	14.1

Notes:

Shading indicates concentration above the calculated concentration limit.

Abbreviations and Acronyms:

 $\mu g/L - micrograms \ per \ liter$

 $\mu mhos/cm-micromhos\ per\ centimeter$

°C - degrees Celsius

BHC - benzene hexachloride

DO - dissolved oxygen

DUP - duplicate sample

EPA – United States Environmental Protection Agency

J - estimated value

mg/L - milligrams per liter

MP - monitoring parameter

mV - millivolts

NAS - Naval Air Station

NTU - nephelometric turbidity unit

ORP - oxidation/reduction potential

pH - hydrogen (ion) concentration

U - analyte not detected above project reporting limit

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1.

4.0 METHANE MONITORING

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent (GV) wells within the Site 1 Landfill and 4 landfill gas monitoring wells (LGMW) on the perimeter of the landfill. Methane monitoring was also performed at the perimeter of the site at 150-foot intervals at 21 locations. The monitoring program was conducted in accordance with Section 4 of the *Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan* (Tetra Tech FW, Inc., 2005a). The monitoring program was conducted in April and October 2005, using a Landtec GA 90 portable methane monitor. Methane monitoring locations are shown in Figure 4-1.

4.1 LANDFILL GAS MONITORING WELL AND GAS VENT RESULTS

The results of LGMW and GV monitoring are shown in Table 4-1. In general, the percentages of methane gas concentrations within the landfill were slightly lower in October 2005 than in April 2005, and are similar to historical concentrations. Methane concentrations were highest in April 2005, near the northern portion of the landfill (GV-7 at 42.3 percent), followed by a detected concentration of 36.0 percent in GV-11, which is near the center of the landfill. None of the perimeter wells (LGMW1-1 through LGMW1-4) showed concentrations of methane above the concentration limit of 5 percent (all readings were zero percent), as specified in Title 27 California Code of Regulations, Section 20921(a)(2) and as identified in the *Moffett Federal Airfield Final Operable Unit 1 Record of Decision* (Department of the Navy, 1997). Appendix F contains methane monitoring data graphs for the 19 GV wells and the 4 LGMWs.

4.2 PERIMETER GAS MONITORING RESULTS

Perimeter monitoring points (P-1 through P-21) are located along the perimeter fence line at approximate 150-foot intervals. Methane was not detected at any of the perimeter monitoring locations in April or October 2005.

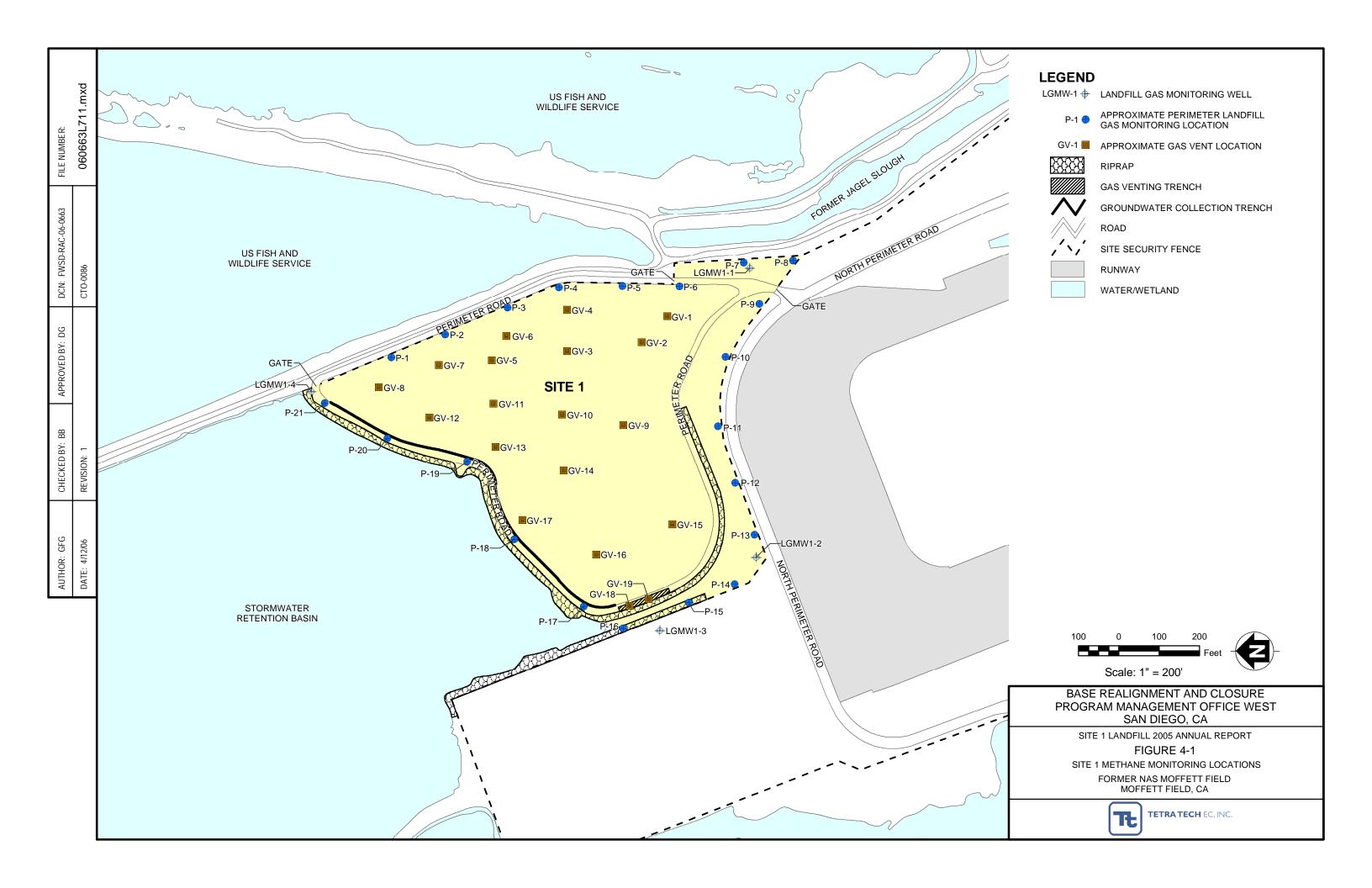


TABLE 4-1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT 2005 LANDFILL GAS MONITORING WELL AND GAS VENT METHANE MONITORING RESULTS FORMER NAS MOFFETT FIELD

Monitoring	Percent Methane ¹						
Location	April 18, 2005	October 7, 2005					
GV-1	0.5	0.1					
GV-2	0.0	0.0					
GV-3	0.0	0.0					
GV-4	0.0	0.0					
GV-5	0.0	4.8					
GV-6	23.0	2.6					
GV-7	42.3	38.6					
GV-8	32.1	24.8					
GV-9	0.0	0.0					
GV-10	1.4	1.0					
GV-11	36.0	3.5					
GV-12	12.9	0.0					
GV-13	0.0	0.0					
GV-14	0.0	0.0					
GV-15	0.0	0.0					
GV-16	0.0	0.0					
GV-17	0.0	0.0					
GV-18	0.0	0.0					
GV-19	0.0	0.0					
LGMW1-1	0.0	0.0					
LGMW1-2	0.0	0.0					
LGMW1-3	0.0	0.0					
LGMW1-4	0.0	0.0					

Notes:

Abbreviations and Acronyms:

GV - gas vent

LGMW - landfill gas monitoring well

NAS - Naval Air Station

 $^{^1}$ - Methane concentrations were measured using a Landtec GA 90 portable methane meter. Accuracy is $\pm\,0.3\%$ by volume at 5% concentration, and $\pm\,1.9\%$ by volume at 60% concentration.

5.0 CONCLUSIONS

Depth-to-groundwater measurements were collected from Site 1 Landfill monitoring wells, piezometers, and collection trench wells on:

- January 31, 2005
- March 7, 2005
- April 11, 2005
- October 3, 2005

Groundwater elevations for all Site 1 Landfill measurements were below sea level for 2005. In general, the groundwater elevations were similar to previous years. The groundwater flows from north to south at the Site 1 Landfill. The gradient from north to south was approximately:

- 0.0005 foot per foot (ft/ft) in January 2005
- 0.0005 ft/ft in March 2005
- 0.0005 ft/ft in April 2005
- 0.0007 ft/ft in October 2005

The following water level trends were observed in 2005:

- Monitoring wells had seasonal high water levels in March.
- Monitoring wells had seasonal low water levels in October.

The seasonal water level fluctuation was on the order of approximately 1 foot.

The water levels in monitoring well pairs W1-19/PZ1-18 and W1-20/PZ1-21 generally show upward potential since 1999.

Dissolved metal monitoring parameters (MPs) were detected at least once in 2005. Historically detected concentrations since 1999 generally show a decreasing trend for arsenic, a flat trend for barium, a flat to decreasing trend for cobalt, and a decreasing for copper. All of these metals are found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

No volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), or pesticides were detected in 2005 with a total of at least three historically detected concentrations (1999 through 2005) in samples from a Site 1 groundwater monitoring well. Therefore, no other trends exist.

During the April 2005 sampling event, the dissolved metal MPs and one pesticide MP (heptachlor) were detected in samples from monitoring wells at concentrations greater than their respective project reporting limits. Only concentrations of barium and heptachlor exceeded their respective calculated concentrations limits (CCLs). Barium was removed from further consideration due to the CCL exceedances occurring in samples from a background well or exceedances were less than historical background values. Heptachlor was also removed from further consideration due the CCL exceedance occurring in a sample from a background well. Neither VOC nor SVOC MPs were detected in the April 2005 sampling event.

During the October 2005 sampling event, the dissolved metal MPs and one pesticide MP (heptachlor) were detected at concentrations greater than their respective project reporting limits. Only concentrations of barium exceeded its CCL. Barium was removed from further consideration due to the CCL exceedances occurring in samples from a background well or exceedances were less than historical background values. Neither VOC nor SVOC MPs were detected in the October 2005 sampling event.

There were no detections of dissolved mercury or of any SVOC at concentrations greater than the project reporting limit for the supplemental groundwater samples collected in January and March 2005.

Analytical results obtained throughout 2005 indicate that there has not been a release from the landfill to groundwater.

As part of landfill monitoring activities, methane monitoring was conducted at the Site 1 Landfill. In general, the percentages of methane gas concentrations within the landfill were slightly lower in October 2005 than in April 2005 and were similar to historical concentrations. Methane was not detected at any of the perimeter monitoring locations in April or October 2005. No landfill gas is migrating off site.

As part of landfill maintenance activities, the landfill is routinely inspected and repaired, as necessary. The landfill cover is intact and functional.

6.0 REFERENCES

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	2005a. Final Site 1 Landfill Post-Closure Long-Term Monitoring
Plan. March 18.	
	2005b. Final Site 1 Landfill Post-Closure Long-Term Maintenance

APPENDIX A FIELD SAMPLING DATA

SEMIANNUAL SAMPLING

APRIL 2005



Page _	_1	of1	
Date	04-	11-05	

Well NameW1-1R					Screen Interval14.3 - 24.3							
	Site 1 gw (s							TOC	Immiscible !	Phases Pr	esent [Yes X No
	o1990.08							Time7.50/0823				
-	tion											
	ate								7.50			
	Personnel				Reference PointTOC Reference Elevation							o
			os									
			·					PRITO	Foot of West		~~~	
Sample II	D 8	6-S1-108			Well Depth MEAS27.46 RPTD Feet of Water Depth of Bottom of Tubing 19.3							··- ·· ·· ··
	: ID			_ [Depth to Water (w/ Tubing in Well) 7.48							
- apiloate				<u></u> -	PURGING							
		''''''''''''''''	, , ,									
						Specific		Cumulativa				ĺ
!	Discharge	Dissolved				Conduct.		Cumulative Volume of Water	PID/OVA	Reading	<u> </u>	Ī
]	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged	····		Depth to]
Time	(L/min)	(mg/L)	рH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0834	124	-13	6.9	321	21.9	87401	2.5	. 2-			7.51	
237	. 24	: (1	6.8	321	22.1	87428	2.4	- 5			7.51	
0340	.24	• (1	6.8	T	22.4	86990	2.2	.7			7.52	
0843	. 24	-11	6.8	3 18	22.6	86891	1.6	. 9			7.52	·······
0846	·24	.10	68	317	225		9	1.0			7.50	
0849	· 4	.10	6.8	···	12.7		8		· · · · ·		7.50	
0852	. 24	.09				86 180		1.4			7.51	
0851	24	109				86170	175	1.5			7.51	
0373	WELL					125 SE					7.07	
0333	West (1211110PM	11 / 2	11 - C	77771	22.5	KAJKZA.		 			
		 		<u> </u>								
Notes:			:			<u> </u>	<u> </u>		<u> </u>		<u></u>	
_	s = 0.2 - 0.5 L/mii n shall be <0.33 t											
SAMPLE	PARAMETE	RS										
\ \	/OCs	SVO	Cs	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury		
SAMPLE						<u> </u>		<u> </u>	 			~
1	∐min	.4L/m	nin	_4L/	min	.4L/1	min	.4L/min	.4∟/	min		
Notes:						11111					 	
	ate for VOCs and ate for non-VOCs	•			vier de			•				
•			46 ratio –	0.2 0.5 611								
	of Well: Go							 		······		
	: samples eff	ervesced in	voas				-					
	QUIPMENT											
•								06			_3X40ml, 6X1	
•	ture Meter	 ·						06		1X1L Poly	, 1X250ml po	ly
•	Meter					lumber						
Spec. Ele	ec. Cond. Met							06	Field Notel	xxxx		
ORP Me	ter	Hydrola	ıb			Number	_					
D.O. Met	er							06	Sample Me	thod	Low Flo)W
	Probe							2				
AVO/GIS	·				Serial I	lumber	-	0				
Pump		Geo-Pu	mp		Serial I	Number	BA004	11				
Filter App	oaratus	Geo45	Micro	ព					Discharge	Water Cor	ntainerized	X Yes No



Page	1 of1
Date	04-11-05

			-					· · · · · · · · · · · · · · · · · · ·				
Well Nan	Well Name W1-5					interval	_14.5-19.5_					
Project_	_Site 1 gw (s	emi-annual)			Station	Elevation	GND	TOC	Immiscible	Phases Pr	resent [Yes X No
Project N	o1990.08	36E						Time5.11/1325			_	
Well Loca	etion	Site 1							5.12			
Sample I	Date	04-12-05		 1				_TOC				
	Personnel											
Gamping												0
		Kana	os						Notes			 -
					Well Depth MEAS21.30 RPTD Feet of Water							
	D8	6-S1-116	· 		Depth o	Depth of Bottom of Tubing 17.0						
Duplicate	e ID				Depth to	Water (w/ T	ubing in W	ell)5.1	0			
					······································		PURGING					
						ļ	1				,	<u>1</u>
						Specific		Cumulative				
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading]	
1 1	Rate ¹	Oxygen	ŀ	EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(Umin)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1400	, et	.43	7.2	274	25.8	72428	8. :	-25		<u> </u>	5.0	
1403	, šŧ	,20	7.2	· · · · · · · · · · · · · · · · · · ·	24.2	2/225	5.6	-5			5.1	
1406	.4	418	7.7		24.5	71686	3.7	. <u>8</u>		<u> </u>	5,1	
1409	. i.f	.16		(28	24.4	71644	3,6	T		 	 '- 	
1412	. ii	, lò	7.2-			7,988	3.7		 	 	51	
	.4	.12				-		1.53	 	<u> </u>	52	
14:5				10/	24.3		3.8		ļ	<u> </u>	5.2	
14 18	.4	(10	7.1	+	241	72128	5.2	1.8			5.3	
1421	14	: 10	7.1	97	34.5	72298	3.3	3.0	<u> </u>	<u> </u>	5.3	
1424	ité	Oi.	7-1	9%		22228	5.3	2,3			5.3	
1427	WELL S	TABLE-	S.	Mell	06		<u> </u>	<u> </u>				
			<u> </u>		<u> </u>	<u> </u>				<u> </u>	L	
Notes:	02 051/-											
_	e ≈ 0.2 - 0.5 L/mí n shall be <0.33 f											
CAMBIE		-00										
	PARAMETE	,		1 50					7 51 44		,	
	/OCs	SVO	JS .	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury	<u> </u>	
SAMPLE									, ,	······		
	L/min	.4L/m	in	.4∪	min	.4∟/ı	min	.4L/min	4L/	min	<u> </u>	
Notes: 1. Sample r	ate for VQCs and	lveis = 0.1 - 0.2	l <i>(m</i> inute	D								
	ate for non-VOCs	•			etunii			-				
O a malikia m	and the later of the											
	of Well: Go						 -					
	:Slight tu	rbidity throug	jhout s	ampling -	VOC sa	mples efferve	sced					
	QUIPMENT											
	·					lumber	#R419	06	Number of	Bottles	_3X40mi, 6X1	L amber,
Tempera	ture Meter	Hydrola	b		Serial t	√umber	#R419	06		1X1L Pob	/, 1X250ml po	ly
Turbidity	Meter	Lamotte			Serial N	lumber						····
Spec. El	ec. Cond. Met				Serial N	Number	#R419	906	Field Notel	oook		
ORP MeterHydrolab					Serial I	Number		906		*** *****		
	ter					Number		906	Sample Me	ethod	Low Fig	W
	Probe		-			· · · · · · · · · · · · · · · · · · ·		2				
	1 1000					vumber				······································		·
	` <u> </u>								-			
					oenai i	Number		11	Diaghana	18fate - C		77. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7. 7.
FIRE AD	paratus	Geo45	ivilcro	n				······	⊔ischarge	vvater Col	ntainerized	X Yes No



Page_	_1_	_ of _	_1
Date	04	-11-09	5

Well Nan	ne	W1-8			Screen	Interval	13 - 18		-3				
Project	_Site 1 gw (s	semi-annual)			Station:	Elevation	GND_	тос	Immiscible !	Phases Pr	esent	Yes X No	
Project No	o1990.0a	86E							5.0	5.04/14365.05/1437			
Well Loca	tion	Site 1					-)	5.05				
	Date									as íbackai	round)	0	
Sampling	Personnel	Ogle											
			os										
					Mali Da	oth MEAS	22.78	RPTD					
Sample I	D8	6_C1_117	<u></u>					15.5	1 GOLOL TTAL	···			
	e ID8								10		• • • • • • • • • • • • • • • • • • • •		
Dupneau	<u> </u>	20-01-110			ъери и			5.0	<u> </u>				
		·····					PURGING						
]]		·]	ì	
		ļ				Specific		Cumulative	PID/OVA	Danding			
	Discharge	Dissolved			Tama	Conduct.		Volume of Water	FID/OVA	Neading	Donih to		
T i	Rate ¹	Oxygen	,	Eh/ORP				Removed/Purged	Leastion	Value	Depth to Water ² (ft)	Comments	
Time	(Umin)	(mg/L)	pH	(mV)	(°C)	at °C)	(NTU) 3,⊅	(Gallons)	Location	value	1	Commens	
1540	, <i>4</i>	146	7.4	287	7 . 7	76730					5.01		
1543	.4	121	74			76720	3.3	15			501		
125-46	. 4	120	7.4		2.7	75724	3.7	8			570		
1549	_4	10	7.3	260		76078	7.4	[8]			5.10		
1000 20	, i f	10		257	21.8	76715	2.1	1.3			5.10		
1555	: 1 <u>.</u>	.09	73	25%	21.8	76714	1.4	1.55			5.00		
1558	WELL	STABLE	(JAMP.	LIASO			•	i				
					1				1		}		
			l		1					· · · · · · · · · · · · · · · · · · ·			
			 										
_	e = 0.2 - 0.5 L/mi m shall be <0.33		•	•	•	!	•						
CAMOLE	PARAMETI	EDC											
		SVO	~	PC	Do	Pestid	oldoe	Dis. Metals	Dis. M	Oroun/			
	/OCs	5000	<u>~\$</u>	1 20	DS	Pesu	dues	Dis. Metais	DIS. IVI	ercury	<u> </u>		
SAMPLE		41 (1		1 41 6		4) (1 41 7			1 '1	
Notes:	Umin	.4L/m	ıın	.4⊔	min	.4L/i	min	.4L/min	.4L/	TIME	<u> </u>		
1. Sample	rate for VOCs and rate for non-VOCs	•			niaute	· .							
	of Well: Go												
Remarks	::Slight g	reen cotor - S	Slight H	I2S odor. \	VOC sar	nples efferves	sced						
FIELD E	QUIPMENT												
pH Mete	r	Hydrola	abde		Serial I	Number	#R419	006	Number of	Bottles	_3X40ml, 6X1	L amber,	
	ture Meter_		b		Serial I	Number	#R419	906		1X1L Poh	, 1X250mt po	oly	
_	Meter					Vumber					· · · · · · · · · · · · · · · · · · ·		
_	ec. Cond. Me	-				Number		906	Field Notel	ook			
-	ter					Number		306					
	ter					Number		906	Sample Me	ethod	Low Fig	ww	
	Probe					Vumber		2		-			
	4					Number		0	***				
	` <u> </u>							41					
	paratus .				yujia! ;			T 1	Discharge	Mater Co	ntainerized	X Yes No	
Luca Mb	Paratus		> 1831CH C	"					212211912	- 144,01 00			



Filter Apparatus _____Geo - .45 Micron_

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page _	_1_	_ of _	_1
Date	04	-11-0	5

Discharge Water Containerized

Well NameW1-12R					Screen Interval15-25							
Project	Site 1 gw (s	emi-annual)			Station Elevation GND TOC Immiscible Phases Present							
Project N	o1990.00	B6E						Time2.29/0800				
	ition			-)				
Sample [Date	04-12-05									round)	
	Personnel											0
,		-	os									
												
Sample I	B	6-81-113			Well Depth MEAS25.78 RPTD Feet of Water Depth of Bottom of Tubing 20							
•	-	6-S1-114		_								
- Duphout	```			<u> </u>	Depart		PURGING	ell)2.3	<u> </u>			
<u> </u>	······································	 		<u> </u>			OKGING				<u> </u>	
	Discharge	Dissolved			Town	Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading	D11-4-	
Time	Rate¹ (L/min)	Oxygen (mg/L)	рH	Eh/ORP (mV)	Temp. (°C)	(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comments
0828	. 4	.60	7.1	354	12.8	58818	38	.25			2.32	
0831	14	136	7.1	326	12.8	56006	30	.50			2.34	
0834	14	25	7.1	308	{Z.8	54424	.22	,80			2.34	
0837	. 4	223	7.1	289	13.0	54004	20	1.0			2.34	
0840	. 나	12/	7.2	275	13.0	53440	18	1.25			2.33	
0843	. 4	19	7.1	261	13.4	57592	15	1.5		<u> </u>	2.34	
0846	. 4	17	7,1		13.6	50669	16	1.75	· · · · · ·	<u> </u>	2.34	
0849	. 4	1/5	7.1	246	13.8		12-	2.0		<u> </u>	2.34	
0852	, 4	.73-	7.1	244			12	2.3		 	2.33	
0855	.4	114	7.1	242		49547	12	2.5			2.32	
0858	WELL	STAR!		SAM						 		••••
Notes: 1. Purge rat 2. Drawdow	e = 0.2 - 0.5 L/mi n shall be <0.33	nute foot							·		•	
1	/OCs	SVO	Cs	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury		<u> </u>
SAMPLE	RATE	1							1	. <u>.</u>	•	_ -
	L/min	.4L/m	iin	.41/	min	.4L/ı	min	.4L/min	.4L/	min		
	ate for VOCs and ate for non-VOCs				inute							
Condition	of Well: Go	od										
Remarks	:Slight turl	bidity - slight	H2S o	dor - sam	ples effe	rvesced in vo	as					•
FIELD E	QUIPMENT											
pH Meter	•	Hydrola	ab		Serial N	lumber	#R419	06	Number of	Bottles_	3X40ml, 6X1	L amber,
Tempera	ture Meter	Hydrola	ab			lumber		06		_		
Turbidity	Meter	Lamoite	·		Serial I	Vumber				. ,		1
-	c. Cond. Mel							106	Field Notel			
•	ter					Number		106				
	er							906	Sample Ma	ethod	J ow Flo	WW
	Probe							2			· · ·	
						Number		0	- 1			
	`					Number	#3002 BAQ04					



Page _	_1	_ of _	_1
Date	04-	11-05	5

Well NameW1-14					Screen	Interval	4.1-14.1				•	
Project _	_Site 1 gw (s	emi-annual)							Immiscible Phases Present Yes X No			
Project N	o1990.08	36E			Static V	Vater Level (fr	om TOC)/	Time4.80/1455	4.	81/1456		
Well Loca	ition	_Site 1										
Sample E	Date	_04-11-05_			Referen	ce Point			PID Readings (background)0			
	Personnel				Referen	ce Elevation		*****				0
		Ram	08									
									Feet of Wa	ter		
Sample I	<u>8</u> 0	6-S 1- 112			Depth of Bottom of Tubing 9.1							
Duplicate	: ID								<u> </u>			
							PURGING					
						Specific		Cumulative				j
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		j
	Rate ¹	Oxygen		EN/ORP		(µmhos/cm		Removed/Purged			Depth to	}
Time	(L/min)	(mg/L)	рН		(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1205	, si-	· <u>80</u>	7.0	135	21.1	78330		,25			4.80	
1505		.40	7.0	122	20.9	79142	6.2	.5			4.81	
1508		- 1)	7.0	116	21.8	79517	5.8	. F			4.81	
1511	4.	12-	7.0	113	21.6	7 9335	4.6	1.0			4.80	
1514	4	.10	7.0	113	21.6	79549	4.3	1.25			4.80	
1817	, 2.5	.09	_	106	21.3	79801	3.6	1.5			4.81	
1220	ڳ	.09		103		79900	2.9	1. K			4.81	
1523		.10	7.0	+	21.2	7	2.9	2.0	<u> </u>		4.80	
1626	WELL	STABA	128	0 - SA	Meri	NG						
										<u> </u>		~-
Notes:				<u></u>	L		[<u> </u>	<u> </u>		
1. Purge rab	e = 0.2 - 0.5 L/mii n shall be <0.33 f											
SAMPLE	PARAMETE	RS										
·	/OCs	SVO	S	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury	/	
SAMPLE				• • • • •					1		<u> </u>	
.1	L/min	.4L/m	in	.4∐	min	.4L/r	ทiก	.4L/min	.41/	min		
Notes:		· 04 00	1 6-14			····					<u> </u>	··•
-	ate for VOCs and ate for non-VOCs	*			inute							
Condition	of Well: Goo	od				•						
Remarks	:Slight turt	oidity - samp	es effe	ervesced in	voas							
	QUIPMENT											
								06	Number of	Bottles	_3X40m1, 6X1	L amber,
•	ture Meter					lumber		06		1X1L Poly	, 1X250ml po	ìy
_	Meter											
	ec. Cond. Met							06	Field Notel	ook		
	ter							06				
	er				Serial Number#R41906				Sample MethodLow Flow			
	Probe				Serial !	√umber	#2758:	2		·		
	·				Serial N	lumber	#0032)				
					Serial N	lumber	BA004	1				
Filter App	oaratus	Geo45	Micro	n					Discharge	Water Cor	ntainerized	X Yes No



Page	_1	of1_	
Date	04-11	-05	

well Nan	ne				Screen	Interval	_4.4 - 14.4	<u> </u>			_		
	rojectSite 1 gw (semi-annual)					Elevation	GND	TOC	Immiscible Phases Present Yes X No				
	o1990.0				Static Water Level (from TOC) / Time5.13/0954								
Well Loca	ation	_Site 1)	5.14				
Sample I	Date	_04-11-05_			Reference PointTOC				PiD Readings (background)0				
Sampling	Personnel	Ogle			Reference Elevation								
		Ram	os										
					Weil Depth MEAS17.77RPTD								
Sample !	D8	6-S1-109						9.4					
Duplicat	e 1D			1					10				
				·······			PURGING						
		· · · · · · · · · · · · · · · · · · ·			1						[······································	
		1		ŀ		Specific		Cumulative					
	Discharge	Dissolved]	Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1002	.4	.24	6.9	274	25.4	54092	34	. 2-			5.14		
1005	,4	.10	1.8		25.1	55252	15	٠, ١, ٢			5.14		
1008	.4	.08	6.8	76	24.7		9.9	. 7			5.14		
1011	.4	.06	6.8	46		57362	7.8	(0)	<u> </u>	ļ	5.12		
1014	.4	.05	6.9	23	24.3		9.3	1.3			5.10		
10:7	.4	05	6.9	2.4	24.1	61912	8.1	1.5	<u> </u>		5.12		
1020	.4	.04	69	33	24.4			1.7		<u> </u>	5.12		
1023	14	.04	6.9	37	24.5	60311		1.4	 	 	5.12		
1026	. 44	.04	6.9	37		60919	6.4	2.2	 	 	5.12		
1029	·	 				Secu		<u> </u>		 	3.8.20		
1041	Py G /==	C16 15 E	-2-	North I	F223	Ceco	1.6-61		 	 		·	
Notes:	<u> </u>	<u>L</u>	<u></u>		1	i		<u> </u>	1	I			
-	e = 0.2 - 0.5 L/mi												
Z. Drawgow	m shall be <0.33	1001											
SAMPLE	PARAMETE			,		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		,					
\	/OCs	SVO	Cs	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury			
SAMPLE	RATE												
	L/min	.4L/m	<u>in</u>	.4L/	min_	.4∐/	min	.4L/min	.4∟/	min			
Notes:	ate for VOCs and	lveis = 0.1 . 0.2	I. Imbrusto	•					·	·			
•	ate for non-VOCs	•		-	ninute								
Condition	n of Well: Go	od											
	: samples ef		16096				-				······································	····	
	QUIPMENT	161 1650GG 111	1000										
	COLLAND TO	Hudrale	ah.		Qurial N	vumber	#0.440	106	Alumbaras	Rofflor	_3X40ml, 6X1	t ambos	
	ture Meter					vumber		06 			_3x40mi, 6x1 /, 1X250ml_pc		
•	Meter									_1 X 1 & POIS	r, ixzəçini pu	лу	
•						Vumber		voe	Ciald Mar-				
•	ec. Cond. Mei					Number			LIGIO (40(6)	эоок			
	ter					Number	#R419		0		· · · · · · · · · · · · · · · · · ·		
	ter	Hydrola				Yumber		06	Sample Me	etnod	Low Fig)W	
	Probe					lumber		2			· · · · · · · · · · · · · · · · · · ·	·	
	·					lumber	#0032				 	 	
					Senat I	Vumber	BA004	H					
Filter Ap	paratus	Geo45	Micro	n					Discharge	Water Cor	ntainerized	X Yes I N	



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Well Nam	e W1-	16			Screen I	nterval	5.4	-15.4				5 ES
Project					Station (elevation	GND	TOC	Immiscible i	hases Pr	esent	Yes No
Project No	. 1990	086E			Static W	ater Level (fr	om TOC) /	Time <u>4.49/48</u>	<u>58 6</u>	<u> 169/08</u>	154 6.4	9 0900
Well Loca	tion Site	/			Average	Water Level	(from TOX	n 6.44				
Sample C	ate 4//3	103			Referen	ce Point <u>7</u> 2	<u> </u>		PID Reading	gs (backg:	round) DA1	4
Sampling	Personnel	D. Harri	SON		Referen	ce Elevation			PID Reading	g (TOC) _	Oppill	
		' '			Static E	levation			Notes		<u>_</u>	
					Well De	pth MEAS /	8,25 I	RPTD	Feet of Wat	er		
Sample I	D 86 - S	7-12	J		Depth o	f Bottom of T	ubing	10.4				
Duplicate		<u>† </u>			Depth to	Water (w/ T	V ni gnidu	<i>وگ دھ</i> ے (lell	 -	·		
						F	URGING				· · · · · · · · · · · · · · · · · · ·	
]							
'			!	1]]	Specific		Cumulative	5/D/O/ /A	Dandler		
1	Discharge	Dissolved		1		Conduct.		Volume of Water	PID/OVA	Reading	Depth to	
	Rate ¹	Oxygen		Eh/ORF		(µmhos/cm		Removed/Purged	Longtion	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L)	ρH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	6.72	Commente
1006	. 4	0.50	7.0	-94	177.7	56134	46	• 1	<u> </u>		6.74	
1009	, if	0.31	7,0	-104	18.0	51468	5.8	.3	 			
1012		0.15	69	- 12 <u>8</u>	18,3	58610	44	5	 		6.75	
1015	14	0.13	6.9	-12	7 18,4	59422	3.0		 		6,75	
1018	,4	0.12	6.9	-125	185	60446	4,4	17	 	 	6.77	
1021	٧,	0.11	69	-123	Ble	60787	3.2	!\	 		9117	
1025	Collect	Sample	1	<u> </u>	<u> </u>	<u> </u>	 		 		<u> </u>	
			<u> </u>	<u> </u>			<u> </u>	ļ	 	 		
			<u> </u>	<u> </u>	<u> </u>	<u> </u>	 	·	}	 		
		<u> </u>	<u> </u>	<u> </u>	_			<u> </u>	ļ. ———	 		
	<u>. </u>	<u> </u>		<u> </u>		<u> </u>	<u> </u>	<u> </u>	.l	1	<u></u>	<u></u>
Notes:	te = 0.2 + 0.5 L/m	inute										
	vn shall be <0.33											
SAMPL	E PARAMET	ERS										
	023	SVOC	3	PC	RIS	Pes	Ť	J) Merc.	10,M	eta/s	1	
	ERATE	1								,		
<u> </u>	I Ulus	7,4			if	. 4		.4	• 4			
Notes:	/ <u>- / · · · · · · · · · · · · · · · · · · </u>	_ 			-							
1. Sample	rate for VOCs and rate for non-VCC	alysis = 0.1 - 0.2 's analysis = nui) L/minut ne rate :	ta = 0.2 - 0.5 L	/minute							
	. /	in and									1	
Conditio	on of Well:	77 J	16:1	1.77	71.7.1	1125	ator	VDC SOUNT	5 EN	erves	ed.	
Remark	(S. <u>3/14/11)</u>	(GVA 12	4 V/W	!} { -	Signt	1400	70.07	100 1910			-	
FIELD	EQUIPMENT	1) 1.7	1.				R419	۸/-	Number o	of Rottlac	H	
pH Met	er	Hyavik	2 <i>1</i>)			Number	<u>K.YI</u> I	<i>σ</i>	Manmer	n somes .		
	rature Meter	7 11	$n_{\tilde{s}}$			Number						
	ly Meter	La Mol	,,			Number	24190	<u></u>	Field Not	ebook		
Spec. I	Elec. Cond. M	leter_ <i>Hyd</i>	Wola!			l Number/	11	<u>~</u> _	FICIU NUL			
ORP N			<u>'</u>			Number			Sample i	Method /	ow FLD	(1)
D.O. M		- 1 10	<u> </u>			l Number	11		Garispie i			<u>,</u>
	ce Probe	<u> 2011451</u>			•	I Number	00320					
PID/O\	· · · <u></u>	Mini Rut			_	l Number	BADO					
Pump		<u>zeopvuj</u>	·// .	110	_	l Number	Dileg	-{	Discharg	e Water C	Containerized	Yes No
Filter A	unparatus 🖇	Bulk H	1140	. <u>. 75</u>	HALLUL	ــــــــــــــــــــــــــــــــــــــ						A



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Date	04-11-05

Well Nan	ne	_W1-19			Screen	Interval	14 - 19						
Project _	_Site 1 gw (s	emi-annual)			Station Elevation GND TOC immiscible Phases Present Yes X No								
Project N	o1990.08	36E						 Time4.55/1255			<u> -</u>		
Well Loca	ation	_Site 1							4.55				
	Date											0	
	Personnel									-		0	
		Ram	os										
					Static Elevation Notes Well Depth MEAS 21.35 RPTD Feet of Water							·· · · · ·	
Sample I	D8	6-S1-110			Depth of Bottom of Tubing 16.5								
Duplicate				_	Depth to Water (w/ Tubing in Well) 4.49								
		·	<u></u>	 ,, <u>1</u>	Doptii		PURGING		~				
			-		1								
!			1			Specific		Cumulative	İ				
	Discharge	Dissotved]] .	Conduct.		Volume of Water	PID/OVA	Reading]		
	Rate ¹	Oxygen		EN/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
150%	. 4	152	7.0	337	23.9	R3150	2.0	2			4.49		
1308	. 44	.22	7.1	325	23.3	82854	1.5	.5			4.52		
1808	: * f	410	7.0	316	229	23506	1.1	- · \$			4.51		
1811	14	.09	7.0	301	27.0	\$5026	1.4	1,0			4.51	·	
1314	٠٠٦	. 07	7.0	204	27.8		1.7	(3			4.53		
1317	ιΨ	106	7.0	193	77.8	85194	1.8	(1.5		Ì	4.50		
1520	, 4	105	6.9	189	37.7		1.3	1.8			4.51		
1223	14	.05	6.9	188		85878	1.3	2.1		<u> </u>	4.53		
1226	J.	.05	6.9			85311	1.3	23	 	<u> </u>	4.57		
1329	WELL	STAR				MPLINE	 				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
1						1							
Notes:	<u>'</u>	1	<u> </u>		·			<u> </u>	· 	· · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	·	
_	e = 0.2 - 0.5 L/mi m shall be <0.33 i												
 	PARAMET	,							r =		·		
\	/OCs	SVO	Os	PC	Bs	Pestic	cides	Dis. Metals	Dis. M	ercury	<u> </u>		
SAMPLE						,					· · · · · · · · · · · · · · · · · · ·	,	
	Umin	.4L/m	<u>iin</u>	.41./	min	.4L/i	min	.4L/min	.4∟/	min	<u> </u>		
Notes; 1. Sample r	ate for VOCs and	lysis = 0.1 - 0.2	L/minute	e									
-	ate for non-VOCs	•			inute								
Condition	n of Well: Go	od											
	: samples eff		vnas	• • • • • • • • • • • • • • • • • • • •		,	· · · · · · · · · · · · · · · · · · ·		······································			· · · · · · · · · · · · · · · · · · ·	
	QUIPMENT	0170000a 317	,,,,,					•					
	Carrier Charles	Hydrola	ah.		Sprint N	Jumbor	#0/10	06	Number of	Rottlee	37.40mt 674	L amber,	
•								06					
	ture Meter									_1.X.1.E.POI)	/, 1X250ml po	лу	
	Meter ec. Cond. Met							106	Eigld Mat-4	nook			
•									Fleid Motes	JOOK		 	
	ter							06	0	- 16 1	,		
	ter							06	sample Me	einod	Low Flo	XX	
	Probe							2					
	PID/OVA Mini-Rae Pump Geo-Pump					Serial Number #00320 Serial Number BA0041							
								1					
Filter Ap	paratus	Geo45	Micro	n			<u> </u>	·	Discharge	Water Co.	ntainerized	X Yes No	



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Date	04-11-05	

Well Nan	ne	W1-22			Screen	Interval	NA						
	Site 1 gw (s	emi-annual)			Screen IntervalNA Station Elevation GND TOC Immiscible Phases Present								
	o1990.08				Static Water Level (from TOC) / Time2.40/0925								
	ation								2,40				
Sample I	Date	04-12-05											
	Personnel												
Sample I	D8	6-S1-115_			Well Depth MEAS6.70 RPTD Feet of Water Depth of Bottom of Tubing 6								
Duplicate	e ID				Depth to Water (w/ Tubing in Well) 2.40								
							PURGING						
		, , ,											
İ]		1	Specific	ŀ	Cumulative					
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	· '	. "	Turbidity	Removed/Purged			Depth to	ļ	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0940	.4	.60	6.7	113	20.4	33458	5.0	.25			2.36		
0943	. 4	,20	6.9	101	21.0	32128	4.3	.5			2.38		
0946	•4	.16	6.9	101	21.3	31463	2.7	٠8			2.40		
0949	.4	:15	67	102	21.6	30401	2.2	(,0			2.39		
0952	• 4	.13	7.0	104	22.0	28303	2.2	1.3			2.41		
0955	• 4	. / 2_	7.0	104	22.3	27592	2.2-	1.5			2.40		
0958	.4	411	7.0	104	22.5	27468	2.2.	1.8			2.39		
1001	14	.10	7.0	102	22.6	27441	2.3	2.1	·		2.41		
1004	14	.09	7.0	10)	22.6	27374	2.3	2.3		[2.40		
1007	. 4	109	7.0	100	226	27540	2.2	2.5			2-41		
1010	WELL	STABLE	(5ampi	LING								
_	e = 0.2 - 0.5 <i>Ur</i> ni n shall be <0.33 t												
SAMPLE	PARAMETE	ERS											
	/OCs	SVO	Os .	PC	Bs	Pestio	cides	Dis. Metals	Dis. Mercury				
SAMPLE	RATE					1						· · · L	
	L/min	.4L/m	in	.4L/	min	.4L/	min	.4L/min	.4L/	min	<u> </u>	<u> </u>	
Notes:		} 		/		<u> </u>		1	<u> </u>				
-	ate for VOCs and ate for non-VOCs	•			inute								
	of Well: Go							·····					
	i:											•	
	QUIPMENT												
								06			_3X40ml, 6X1	· —	
_	ture Meter			•				06		1X1L Poly	, 1X250ml po	ly	
•	Meter					łumber		· · · · · · · · · · · · · · · · · · ·					
	ec. Cond. Met							06	Field Notel	XXXX		·	
	ter					•		06			 		
	ter							·06	Sample Me	thod	Low Flo		
	Probe				Serial Number#27582								
	١				Serial Number #00320					 			
						Number	BA004	11					
Filter Ap	paratus	Geo45	Micro	n		·			Discharge	Water Cor	ntainerized	X Yes No	



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							1 11					
Well Nam		- <u>24</u>			Screen I	nterval	0-70	<u> </u>	. ,	51 	r	770 171 115
	1990.0	866			Station I	Elevation	GND,	тос, і	mmiscible I	Phases/Pr	esent <u>[</u> 55 /6.4	Yes No
Project No	o <u>MFA</u>								<u> 554 4</u>	40/08	<u> 55 /6.4</u>	810322
	tion <u>Site</u>			<u>===</u>	Average	Water Level	(from TOC	i) <u>6.68</u>		·	. 40.	
Sample D)ate <u>4/</u> /	3/05			Referen	ce Point	100	·	PID Reading	gs (backg:	round) (C)	100
Sampling	Personnel_	S. Harris	01-		Referen	ce Elevation			PID Reading	_ (ТОС) g	<u>Оррт'/</u>	
					Static E	levation			Notes		· · · · · · · · · · · · · · · · · · ·	
					Well De	pth MEAS 2	<i>0.7/</i> 5_F		Feet of Wat	er		
Sample I	D 86 -	5/-1/	9		Depth o	f Bottom of T	ubing	<u> </u>				
Duplicate								lell)	58			
			_				URGING		<u></u>			
		· · · · · · · · · · · · · · · · · · ·				<u> </u>	OROMO					
						Specific	!!!	Cumulative			1	Ì
	Disabassa				1	Conduct.		Volume of Water	AVO/GIG	Reading]	
	Discharge Rate ¹	Dissolved Oxygen		leh <i>i</i> ∩R9	Temp.		Turbidity	Removed/Purged			Depth to	1
Time	(L/min)	(mg/L)	ρН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0850	,4 Um	0.64	7.2	-51	15.8	52296	4.9	. 1			6-69	
0853		19.31	7.2	- 77	15.9		<.3	, 'S			671	
0856		19.17	7.2	-94		52980	4.6	.5			6.72	
0859	.4	0.16	7.2					• 7			6,72	
0902	-4	0.15	7.1	-47	16.4		5,8	g		<u> </u>	173	
0905	Collect	Samole		 	1.5-7.							
0703	1.011EGA	Samo	1	 	 				[
 		 	 		 							
ļ	 		 	 	 		 			1		
	 -	}	} 	 	+	 	1				<u> </u>	
	ļ.————	 	╅┈	 	1							<u> </u>
Notes:	<u> </u>	<u> </u>	<u>. </u>			_l						
	te = 0.2 - 0.5 L/m											
2. Drawdov	vn sha# be <0.33	toot										
	E PARAMET				·	T= 15	7	1/x D. Melals	17. N	1000		
	10L'S	2× S	(CL'S	124	PCR'5	Zx Pe	\$1	1/ X 10 NAGISTA	11/ X . J).	VIEW.		·
SAMPL	ERATE	~ 		,				- 4	T	7	7	
	1 Um	1 .40	1/m		. 4	64		0-1	1	<u> </u>	<u>. l </u>	
Notes: 1 Sample	rate for VOCs an	alvsis = 0.1 - 0.2	2 L/minut	e								
2. Sample	rate for non-VOC	is analysis = pur	ge rate :	0.2-0.5L	/minute							
Conditio	on of Well: _	S~(····	<u> </u>			
Remark	cs: Slinht	DYN CO	[ev-]	Bluk	+ N2	5 odor	· VOC	Sumples e	ffeveso	e4.		
				7				,				
	<u>EQUIPMENT</u>				0 - 1 -	1 hdr.mat	R4190	36	Number o	of Bottles	17	
pH Met		1 guiga				Number	<u> </u>		AGIIOC (
•	rature Meter	. 64 1				Number						
	ty Meter/	a Motte	T-1-1			Number	124191	7/4	Field Not	ebook		
	Elec. Cond. M	leter 1440	<u> 20014</u>	2		Number	12-14-1-3-1	<u> </u>	1100			
	ORP Meter					Number			Sample !	Method C	ow Fio	رين
D.O. Meter H					- Setta Moniber				Outhpio i		<u></u>	
	ce Probe	Sdin			-	l Number	<u>2175</u>					
PID/O\		line Doe	<u>-</u>		•	l Number	BAOOL					
Pump ,	(ક્લ્વ્))UMP	7.11				011000	<u></u>	Discharo	e Water 0	Containerized	Yes No
Filler A	nnacatus '	NORCK	1-: 14	74 .	15 Mi	CYCV						

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Well Nam	ne <u>W1-1R</u>	i ····			Screen Interval 14.3-24.3									
Project _	CTO 86-Site	1, Şemi-An	nual		Station Elevation GND TOC Immiscible Phases Present Yes No									
Project N	o. <u>1990.0</u>	86E			Static Water Level (from TOC) / Time 8.29/1409 8.29/1409 8.29/1409									
Well Loca	tion <u>Moffett</u>	- Site 1			Average Water Level (from TOC) 8:29									
Sample I	Date 10	4 05			Reference Point TOC				PID Readin	gs (backgi	round) <u>Opp</u>	(~-		
Sampling	Personnel_	D. HARRIS	ON		Reference Elevation				PID Readin	g (TOC) <u>-</u>	<u>Oppm''</u>			
		B.Ogle	······································		Static Elevation				Notes		<u> </u>			
					Well Depth MEAS 27.27 RPTD Feet of Water									
Sample I	D_86-S1-12	4			Depth of Bottom of Tubing 19.3									
Duplicate	. ID <u>N/A</u>				Depth to Water (w/ Tubing in Well) 8にです									
						ſ	PURGING			_				
,			_											
						Specific		Cumulative			•		i	
	Discharge	Dissolved		ŀ		Conduct.		Volume of Water	PID/OVA	Reading				
	Rate ¹	Oxygen		EMORP.	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to			
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gations)	Location	Value	Water ² (ft)	Comm	ents	
1430	ر دا	0.96	6,4	449	20.7	70/80	0.7	u/			8,31			
1433	19	0.73	6.5	382	26.8	78136_	0.5	, 3			8.33			
1436	ų̈́	0,69	65	347	20.9	70087	Ø	. 5			8,35			
1439	.4	0.24	65	320	20.7	69973	ix	7			8,36			
1442	44	0.22	6.5	318	20,7	69943	Ø	-9			8.34			
1445	.4	0.20	6.5	314	20.6	68802	(26	1.1			8,37			
1448	allet	Sauple	<u> </u>		<u> </u>									
		, , , , , , , , , , , , , , , , , , , ,		<u> </u>					· 			 -		
										<u> </u>				
			<u> </u>							<u> </u>				
		<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>		<u> </u>	<u> </u>	<u> </u>			
Notes: 1. Purge rat	e = 0.2 - 0.5 L/mi	inute												
2. Drawdow	m shall be <0.33	foot												
SAMPLE	PARAMETE	ERS									<u> </u>			
V	ocs	SVOC	:s	PE:	ST.	PCI	BS	D.MERC	D.ME	TALS	<u></u>			
SAMPLE	RATE	•								.				
.	14/4	.4		ء ل		,4	(.4	24	· · · · · · · · · · · · · · · · · · ·	<u></u>			
Notes:			l India.			- '								
	ate for VOCs and ate for non-VOCs				ninute									
	of Well: 🚱	1	1	- ,										
	: Clear Co				الميارة	efferte	C/(3)				······································			
Kemarks	· Cico je	1001 (5.77	<u> v</u>	<u> </u>	- NA 5- 2	0.0,0	70-50		, , , , , , , , , , , , , , , , , , , 					
<u>FIELD E</u>	QUIPMENT									B. W	23/40mm) \ /			
pH Meter		HYDROLAI	3				R41334		Number of	Bottles	_3X40mLV			
-	ture Meter	HYDROLA					R41334				4X1LA			
Turbidity	· · · · · · · · · · · · · · · · · · ·	HYDRO					aMOTTE_				XLP 1X250mLP			
•	ec. Cond. Me		<u>OLAB</u>				R41334		2014 AL-4-4	- Ale - C -	AL.			
ORP Me		(DROLAB					R41334		Field Notel	XXXX				
D.O. Me		DROLAB_			Serial Number #R41334				O and Market Law Plant					
Interface Probe SOLINST					Serial Number #25582				Sample Method Low Flow					
PID/OVA		NI-RAE					00320							
Pump		EO-PUMP				Number <u></u> B <ナル、M	A0041		Discharge	Mater Co.	ntainerized	X Yes	No	
Filter An	naratus G	FO. 45 MIC	RON	~ .(), (7 10 TO 1	~ F (B) (V)	wu 🛰		Trianing (IGINE	TAGICI CO	I WILL TO LECT	1.1		



TETRATECH FW.INC. LOW-FLOW GROUNDWATER **SAMPLING DATA SHEET**

Page	_1_	of_	_1	_
Date	10/3#	25		

West Name Wil-S	-										·			
Project No. 1990 088E Static Water Level (from TOC) Tane 5.4 \(\frac{9}{150} \)	Welf Nan	ne <u>W1-5</u>				Screen	Interval	14.5-1	9.5					
Average Weter Level (from TOC) S_6 PID Readings (background) D_6	Project _	CTO 86-Site	1, Semi-An	nuaf		Station Elevation GND TOC Immiscible Phases Present Yes X No								
Average Water Level (from TOC)	Project N	o. <u>1990.0</u>	36E											
Sample D	Well Loca	ation <u>Moffett</u>	Site 1			Average	e Water Level	(from TOC	5.69					
Static Eleveration	Sample i	Date 10 6	05			Referen	ace Point <u>T</u>	oc	· · · · · · · · · · · · · · · · · · ·	PID Readin	gs (backg	round) <u>ØØ</u> g	200	
Static Eleveration	Sampling	Personnel_	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) _	000 m		
Sample ID 86-St-131										Notes		11		
Depth of Bottom of Tubing												• • •		
Depth to Water (w/ Tubing in Well)	Sample I	Sample ID 86-S1-131												
Discharge Dissolved Rate		_			_								· ·	
Discharge Dissolved Rate Conduct Con						Dopare								
Discharge Discharge Rate Discharge Rate Doygen Doy				,			<u> </u>	PURGING						
Discharge Discharge Rate Discharge Rate Doygen Doy						1								
Rate Oxygen (Lmin) PH ENORP Temp. (Lmin) C(C) at C) C(In) Removed/Purged (Callons) Location Value Water (In) Comments (Linum) C(Callons) Location Value Water (In) Comments (Linum) C(In)						ļ			T	BIDIOLIA	Dooding	1		
Time (Umin) (mgL) pH (mV) (°C) at °C) (NTU) (Gatlons) Location Value Water (ft) Comments 1225 0.51 (c.5 13 23.3 51370, 11.4 (l		!		l '''' '	PIDIOVA	reading_	Tooth to		
12.5	T :								. "	Location	Value	1 ' 1	Comments	
12.29		(DMIN)		_	1 `	 			······································	LOCATION	Value		- Collinterna	
12.5				-							<u> </u>			
12.51	-	• "		-										
12.37		. 9			,				5			•		
Note:		<u> </u>							• 7	ļ	ļ <u> </u>	5,72		
Notes: 1. Purger rate = 0.2 - 0.5 L/minute 2. Drawdown shall be < 0.35 foot SAMPLE PARAMETERS VOCS SVOCS PEST PCBS D.MERC D.METALS SAMPLE RATE 1.		 			63	23.2	57879	2.4	. 9			5,73		
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041	1240	Collect	Sample	<u>-</u>							 			
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041			<u>'</u>		ļ	<u> </u>	ļ			<u> </u>			· · · · · · · · · · · · · · · · · · ·	
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041														
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041								<u> </u>						
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041						<u> </u>				<u> </u>			<u>-</u> .	
1. Purge rate = 0.2 - 0.5 Uminute 2. Drawdown shall be 40,33 foot SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well; Condition of Well; FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Turbidity Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pass Jol H 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041					<u> </u>	<u> </u>								
2. Drawdown shall be -0.33 fool SAMPLE PARAMETERS VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE 1. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		e=02-05Umi	nute											
VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE	-													
VOCS SVOCS PEST. PCBS D.MERC D.METALS SAMPLE RATE	SAMPI F	PARAMETE	RS											
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 AX1LA Turbidity Meter HYDROLAB Serial Number #R41334 IXLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 Field Notebook PGS 0.1 + 1.0 × 1.				S	PE	ST	PCI	38	D.MERC	D.ME	TALS			
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for NOCs analysis = 0.1 - 0.2 L/minute Condition of Well: Geod Remarks: Clear Signath Namber R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number R41334 AX1LA Turbidity Meter HYDROLAB Serial Number LaMQTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number R41334 1X250mLP ORP Meter HYDROLAB Serial Number R41334 Field Notebook PGS 10 14 10 2 2 D.O. Meter HYDROLAB Serial Number R41334 Field Notebook PGS 10 14 10 2 2 D.O. Meter HYDROLAB Serial Number R41334 Serial Number R41334 Interface Probe SOLINST Serial Number R25592 Sample Method Low Flow PliD/OVA MINI-RAE Serial Number R00320 Pump GEO-PUMP Serial Number BA0041 D.O. Meter BA0041 BA0041 D.O. Meter HYDROLAB Serial Number R00320 Pump GEO-PUMP Serial Number BA0041 D.O. Meter BA0041 BA0041 D.O. Meter HYDROLAB Serial Number R00320 Pump GEO-PUMP Serial Number BA0041 D.O. Meter BA0041 BA0041 D.O. Meter BA0041 BA0041 D.O. Meter HYDROLAB Serial Number BA0041 D.O. Meter BA0041 BA0041 D.O.		•		<u> </u>	<u>, , , _, , _, , _, , _, , _, , _, , _,</u>							· · · · · · · · · · · · · · · · · · ·	<u></u>	
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Remarks: Clear Stight Mas Oder - VOC Samples affected. FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pas 10.14 18.2 D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #R41334 Interface Probe SOLINST Serial Number #R41334 Pump GEO-PUMP Serial Number BA0041	SAIR EL	. 104111			1	प		<i></i>	4	.4			T	
2 Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Good . Remarks: Clear / Stript 1 MDS & der - VOC Samples of Ferveset. FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 Field Notebook PGS 10 1+ 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PUMP GEO-PUMP Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	Notes:	· · · · · · · · · · · · · · · · · · ·	<u> </u>		1 1		<u> </u>		<u> </u>	<u> / .</u>				
Condition of Well: Gtard . Remarks: Claur Slight Mas oder - Voc Samples of Fervesced . FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook Pas 10 14 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Field Notebook Pas 10 14 10 2 Interface Probe SOLINST Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041														
Remarks: Claw Slight Nas Odor - VOC Samples effervesed. FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS 10 14 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Serial Number #R41334 Interface Probe SOLINST Serial Number #R41334 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041		_	1	ge rate =	0.2 - 0.5 1/n	ninute	•							
FIELD EQUIPMENT PH Meter	Condition	i of Well: _ك	twell ·		<u> </u>						<u>.</u>		····	
PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LAMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS I A I I I I I I I I I I I I I I I I I	Remarks	: <u>Chew / </u>	Slighot	<u> </u>	5 00	lov -	VOC S	amples	s exterves	ed.				
PH Meter HYDROLAB Serial Number #R41334 Number of Bottles 3X40mLV Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LAMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS I A I I I I I I I I I I I I I I I I I	FIELD E	QUIPMENT	•					'						
Temperature Meter HYDROLAB Serial Number #R41334 4X1LA Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS 0 4 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	-		HYDROLAE	3		Serial N	vember #	R41334		Number of	Bottles	3X40mLV		
Turbidity Meter HYDROLAB Serial Number LaMOTTE 1XLP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS IO I+ 10 > D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	•	•	HYDROLA	В		Serial N	Number#	R41334				4X1LA		
Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41334 1X250mLP ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS. JO 14 10 2 D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Flow Final Number BA0041	•					Serial N	Number La	MOTTE			1	IXLP		
ORP Meter HYDROLAB Serial Number #R41334 Field Notebook PGS IO 14 18 2 D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	-	•						R41334				1X250mLP		
D.O. Meter HYDROLAB Serial Number #R41334 Interface Probe SOLINST Serial Number #25592 Sample Method PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041										Field Notel	000k P45	5. 101+1	0 2	
Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041														
PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041										Sample Me	thod Lov	y Flow		
Pump GEO-PUMP Serial Number BA0041											 _			
· · · · · · · · · · · · · · · · · · ·														
				RON	<u>- D</u> .					Discharge	Water Co	ntainerized	X Yes No	



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Well NameW1-8	Screen Interval13-18							
Project CTO 86-Site 1, Semi-Annual	Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No. <u>1990.086E</u>	Static Water Level (from TOC)	Time <u>5.76/15</u>	107 <u>5,76/15</u> 9	08 5.76/1509				
Well Location Moffett- Site 1	Average Water Level (from TO	3 <u>5,76</u>						
Sample Date 101001	Reference Point TOC		PID Readings (backg	round) Opp				
Sampling Personnel D. HARRISON	Reference Elevation		PID Reading (TOC)_	Oppn .				
B.Ogle	Static Elevation		Notes	<u> </u>				
	Weil Depth MEAS 22.47	RPTD						
Sample ID 86-S1-133	Depth of Bottom of Tubing 1	5.5						
Duplicate ID <u>86-S1-134</u>	Depth to Water (w/ Tubing in W	/ell) <u>5.76</u>						
	PURGING							
Discharge Dissolved	Specific Conduct.	Cumulative Volume of Water	PID/OVA Reading	B				
Rate ¹ Oxygen Et/ORI Time (L/min) (mg/L) pH (mV)	P Temp. (µmhos/cm Turbidity (°C) at °C) (NTU)	Removed/Purged (Gallons)	Location Value	Depth to Water ² (ft) Comments				
1345 .4 0.87 6.7 63	123,5 60804 8.6	1		5.78				
1348 4 0.14 6.7 61	28,1 60753 8.4	- 3		5.79				
1351 4 0.12 4.7 60	23,0 60711 9.3	15		5.81				
1354 . 0.11 6.7 59	12.8 60648 8-9	• 7		5.83				
1355 Collect Sample				5				
1405 Collect Field DALIGIE								
				<u> </u>				
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot								
SAMPLE PARAMETERS	1	DATEDO	T BURELLA					
	EST. PCBS	D.MERC	D.METALS					
SAMPLE RATE		T	79	<u> </u>				
Notes:	4 1 4	4	4 7	<u></u>				
1. Sample rate for VOCs analysis = 0.1 · 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 · 0.5 L Condition of Well: Conditio	Jminute							
FIELD EQUIPMENT			Museles of Dottion	6X40mLV				
pH Meter HYDROLAB	Serial Number #R41334		Number of Bottles	8X1LA				
Temperature Meter HYDROLAB	Serial Number #R41334			2XLP				
Turbidity Meter HYDROLAB	Serial Number <u>LaMOTTE</u>			2X250mLP				
Spec, Elec. Cond. Meter HYDROLAB	Serial Number #R41334		Field Matchaek Pa	5. 102 + 103				
ORP Meter HYDROLAB	Serial Number #R41334		Field Notebook 17	102:103				
D.O. Meter HYDROLAB	Serial Number #R41334		County Marked Louis English					
Interface Probe SOLINST	Serial Number #25582		Sample Method Low Flow					
PID/OVA MINI-RAE	Serial Number #00320		<u> </u>					
Pump GEO-PUMP	Serial Number BA0041		Discharge Water Co	ntainerized X Yes No				



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Date 10/3/05	

	_										:		
Well Nan	ne <u>W1-12</u>	R			Screen	Interval	15-25				_		
	CTO 86-Site	1, Semi-An	nual		Station	Elevation	GND_	TOC	Immiscible		resent	Yes 🛛 No	
Project N	o. <u>1990,0</u>	86E			Static V	Vater Level (fr	om TOC) /	Time 3.09/149	123,	<u>94) 140</u>	13 3.0	1/1949	
-	ation Moffett				Average	Water Level	(from TOC	3,04 '					
	Date /0/4				_		-		PID Readin	gs (backg	round) 004	·~	
_	Personnel_		ON						PID Readin	a (TOC)	DPP	·	
		B.Ogle							Notes	, .			
		p. v.g.v.								er			
Sample I	D_86-S1-12					of Bottom of T				· · · · · · · · · · · · · · · · · · ·			
	e ID <u>N/A</u>	7		- −		o Water (w/ T			·····	-			
Duplicati	E ID TWA				Deptira	o vvalei (wi i	CORIG III VV	¢ii) <u>~)</u>					
		· · · · · · · · · · · · · · · · · · ·	,			, <u>.</u>	PURGING						
	Discharge	Dissolved		E. 10 D.	Tomp	Specific Conduct. (µmhos/cm	T	Cumulative Volume of Water	PID/OVA	Reading	Depth to		
T	Rate ¹	Oxygen		Eh/ORP	Temp.	at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	pH	(mV)	19.8	69703	31.8	(Galidita)	Location	¥4,40	3.05		
1025	.4	0.55	6.6	160	-						3.06		
10ZS	. 4	0.38	66		19.8	68760	30.2	. 3					
103i	•4	0.20	66		17.8		25.4	.5			3.06		
1.34	4	0.15	7	163	19.7		22.7	.7			3.06	<u> </u>	
1037	.4	0.14	6:5			68687		19			3.06		
1040	74	0.13	6,5	164	17.7	68690	21.2	1./			3.06		
1041	Collast	Scupe	<u> </u>		1						 		
·		ļ ·	 -	<u> </u>	<u> </u>		<u> </u>				 		
			<u> </u>				ļ <u>.</u>						
		<u> </u>		1	<u> </u>		ļ. <u> —</u> —			<u> </u>	 		
	ļ.,	<u> </u>	<u> </u>]	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	····	
	te = 6.2 - 6.5 L/m vn shall be <0.33												
SAMPLE	PARAMET	ERS											
	/ocs	SVOC	S	PE	ST.	PCI	BS	D.MERC	D.ME	TALS			
SAMPLE	RATE	£.											
	• /	.4		T ,	4	, (<u> </u>		
2. Sample :	rate for VOCs and rate for non-VOC on of Well:	s analysis ≠ pur 1	ge rate =	= 0.2 + 0.5 L/r	ninute								
FIELD E	QUIPMENT	, ,	J										
	r	HYDROLAI	В		Serial I	Number #	R41334	·	Number of	Bottles _	3X40mLV		
-	ture Meter				Serial	Number#	R41334				4X1LA		
-	Meter	-			Serial I	NumberL	aMOTTE				XLP		
-	ec. Cond. Me			<u>-</u>			R41334				1X250mLP		
•		/DROLAB					R41334		Field Note	000k_Pa	-100		
D.O. Meter HYDROLAB							R41334			Ţ	J		
	Interface Probe SOLINST						25582		Sample Me	ethod _Lov	v Flow		
PID/OV/		NI-RAE					00320						
Pump		EO-PUMP					A0041						
. –	paratusG		RON	4 -		, —	Mesc.		Discharge	Water Co	ntainerized	X Yes No	
·													



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Date_	10/3	/05	

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Well Nan	ne <u>W1-14</u>				Screen	Interval	4.1-14	k.1					
Project _	CTO 86-Site	1. Semi-An	nual		Station Elevation GND TOC Immiscible Phases Present Yes X No								
Project N	o. <u>1990.0</u>	86E			Static V	Vater Level (fr	om TOC)	Time <u>5.77/143</u>	ر 2 ح	17/143	<u>3 5.7</u>	1/1434	
Well Loca	ation Moffett	- Site 1			Average Water Level (from TOC) 5.77								
Sample I	Date	105			Reference Point TOC F					gs (backg	round) <u>Ο</u> Αρ		
Sampling	Personnel_	D. HARRIS	ON						PID Readin	g (TQC)	Oppmil		
		B.Ogle				levation			Notes		.1		
								RPTD				•	
Sample I	D 86-\$1-12	8				of Bottom of T				-			
	e ID MS/M					o Water (w/ T							
<u> </u>		•					PURGING			•	······································		
				<u> </u>									
	Discharge	Dissolved				Specific Cumulative Conduct. Volume of Wat				Reading			
	Rate ¹	Oxygen	1	Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comme	nts
0825	0.4	0.61	6.8	29/	18.3	63798	11.2	,2-			5.79		
8828	,4	0.43	6.8	171	18.3	64378	9.4	.4			5.81		
0831	.4	0.25	6.7	82	18.3	64930	9.1	16			5.31		
0834	.4	0.21	6.1	77	18.3	67002	36	28			5 83	· !	
0837	.4	0.23	6.7	74	18.3	67.110	2.6	/./\			5,84		
0840	Collect	Sauple											
		7											
			·										
											<u> </u>		
											<u> </u>		
_	e = 0.2 - 0.5 L/mi m shall be <0.33												
SAMPLE	PARAMETI	ERS											
\ \	rocs	SVOC	s	PE:	ST.	PC	35	D.MERC	D.ME	TALS			
SAMPLE	RATE		·							· · · · · · · · · · · · · · · · · · ·	,		
	1 Uar	- 4		, 4	<u>{ </u>	. 4		. 9	<u> </u>	4	<u> </u>		
2. Sample r	ate for VOCs and ate for non-VOCs of Well:	analysis = pur	≃ elsn eg	0.2 - 0.5 Un		VOL SO	moles	eHerrscec	<u> </u>				
FIELD E	QUIPMENT	,									0)(40, 114		
pH Meter		HYDROLA					R41334	··········	Number of	ROMES			
•	ture Meter	HYDROLA			Serial N		R41334				12X1LA XLP		
Turbidity		HYDRO					MOTTE_					·····	
-	c. Cond. Mel		OLAB				R41334		Field Nr.+-4	nate De	3X250mLP		
ORP Me		DROLAB_					R41334	 	Field Notel	xxx 1.9	~ 1]	·-·	—
	D.O. Meter HYDROLAB						R41334		Complete	thed 1 av	. Elou		
	Interface Probe SOLINST						25582		Sample Me	жи о и <u>"LOV</u>	, L. IOM		-
PID/OVA		NI-RAE	··				00320 A0041	· · · · · · · · · · · · · · · · · · ·					
Pump		O-PUMP	DOM:			Number <u>B</u> く ナル Mu	A0041		Discharge	Water Co	 ntainerized	X Yes	По



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Weli Nan	ne <u>W1-15</u>]	Screen	Screen Interval 4.4.14.4							
Project _	CTO 86-Site	1, Semi-An	nual		Station Elevation GND TOC Immiscible Phases Present Yes No								
Project N	o. <u>1990.0</u>	86 <u>E</u>		·	Static Water Level (from TOC) / Time 5.98/1403 5.90/1404 5.90/1405								
	ation <u>Moffett</u>				Average	e Water Level	(from TOC	5.40'	PID Readings (background)				
	Date 0				Referen	nce Point <u>T</u>	OC		PID Readin	gs (backg	round) <u>Ú</u> /	pu	
Sampling	Personnel _	D. HARRIS	ON		Referer	nce Elevation	- 		PID Readin	g (TOC)	Oppu	<u> </u>	
		B,Ogle			Static E	levation			Notes		-11		
					Well Depth MEAS 17, 46 RPTD Feet of Water								
Sample I	D 86-S1-12	5		1	Depth of Bottom of Tubing 9.4 Depth to Water (w/ Tubing in Well) 5-70								
Duplicate	ID <u>N/A</u>				Depth t	o Water (w/ T	ubing in W	ell) <u>5-70</u>					
							PURGING				<u> </u>		
			[<u> </u>	· · · · ·		·						
]		Specific		Cumulative					
	Discharge	Dissolved		-		Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/mìn)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
i <i>535</i>	,4	0.46	6,5	-19	21.8	54440	22.8				5,93		
1538	14	0.40	6.6	- 21	21.7	56739	13.7	~ Y			5.85	:	
1541	4	0.29	6.4	- 30	21.5	43278	9.0	. 6			5,94		
1544	,4	0,27	6.7	-31	21.4	44534	7-2	18			5,97		
1547	.Ÿ	0.26	6.7	-32	21.2	64824	6,4	1-0			5,98		
155D	Gollect	Sample				,	,						
								-					
Notes: 1. Purge rati	e = 0.2 - 0.5 L/mic	nute											
2. Drawdow	n shall be <0.33 (foot											
SAMPLE	PARAMETE	RS											
V	ocs	SVOC	<u>s</u>	PES	ST.	PC	38	D.MERC	D.ME	TALS			
SAMPLE	RATE	ís.		1	****	l —							
	14/4				1	-4		. 1	.4				
2. Sample n	ate for VOCs analete for non-VOCs	analysis = purg			inute								
	of Well;						 	 			 		
Remarks:	CHar	odovle se		VOC	Samp	bles effe	v Sesee	<u> </u>					
FIELD E	QUIPMENT												
pH Meter		HYDROLAE			Serial N	lumber#f	341334		Number of	Bottles	3X40mLV		
Temperat	ure Meter	<u>HYDROLA</u>	<u> </u>	<u>.</u>	Serial N	lumber#	741334				4X1LA		
•	Meter	HYDROL			Serial N	lumber <u>La</u>	MOTTE			1	XLP		
Spec. Ele	c. Cond. Met	er <u>HYDR</u> (BAJG		Serial N	lumber <u>#</u>	R41334				1X250mLP		
ORP Met	er <u>HY</u>	DROLAB			Serial N	lumber <u>#</u> f	R41334		Field Noteb	∞k_<u></u>[₄≲	. 46 t 97		
D.O. Met	er <u>HY</u> I	DROLAB			Serial N	lumber #f	R41334			···········	 		
Interface	Probe <u>SOL</u>	INST	<u></u>		Serial N	lumber#2	25582		Sample Me	thod <u>Low</u>	Flow		
PID/OVA	MIN	I-RAE		<u></u>	Serial N	lumber#(00320						
Pump		O-PUMP			Serial N		A0041_				······································		
Fitter App	aratus <u>G</u>	EO45 MICI	RON -	<u>- 0. r</u>	Metal	5 + D. M	erci	 	Discharge 1	Water Con	ntainerized	X Yes No	



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Date_	10/3	/05 <u> </u>	

												· ·
Well Name W1-16					Screen Interval 5.4-15.4							
Project _	CTO 86-Site	1, Semi-An	nual		Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project N	o. <u>1990.0</u>	86 <u>E</u>			Static V	Vater Level (fr	om TOC) /	Time 7.31/151	<u>7 7.0</u>	<u>1/1518</u>	701	1518
Well Loca	ation <u>Moffett</u>	- \$ite 1			Average Water Level (from TOC) 7, 0/							
Sample I	Date 10/	6/05			Reference Point TOC						round) <u>O</u> O p	> L-
	Personnel		ÖИ		Referen	ce Elevation			PID Readin	g (TOC) _	Oppu!	
		B.Ogle			Static Elevation						f	
	·			_	Well De	oth MEAS	8,24 F	RPTD	Feet of Wat	er		
Sample I	D 86-S1-13					f Bottom of T						
-	e ID <u>N/A</u>	<u> </u>			Donth to	n Water (w/ T	ubing in W	ell) 7.61	•	-		
Dupiicat	- ID_IVA				Бериги	V 442001 (147 1						
							PURGING	· · · · · ·				.
				ļ]	
						Specific		Cumulative	PID/OVA	Panding	l' l	
	Discharge	Dissolved		 	 	Conduct.		Volume of Water	FIDIOVA	reading	Depth to	
	Rate ¹	Oxygen	l	Eh/ORP				Removed/Purged	Location	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Galions)	Location	Value	7.03	COMMINGING
1545	,4	19,58		34	22.3		28	, 2				
1548	.4	0.24	6.4		22.0		22.6	. 4			7.04	
155	,4	12.13	6.5	20	22.6		16	16			7.05	
1554	.7	0.12	6.6	18	22.3		14.5	.8			7.07	
1557	,4	0.11	6.3	17	210	64722	14.1	1-0			7.09	
1600	Collect	Samo	12								ļ	
	<u> </u>	-			1	-						
				1	1							
			 		<u> </u>							
	 		 	 	╁┈┈							
Notes:	<u> </u>		<u> </u>	l	<u> </u>	<u> </u>	1	t . <u></u>	·			
_	te = 0.2 - 0.5 L/m											
2. Drawdov	vn shall be <0.33	foot										
SAMPLE	E PARAMET	ERS										
\	/ocs	svoc	S	PE	ST.	PC	BS	D.MERC	D.ME	TALS	<u> </u>	<u> </u>
SAMPLE	ERATE	ć,										
	e /	*4			4	1 4		.4	• 4	<u></u>		
Notes:	· · · · · · · · · · · · · · · · · · ·	<u>, </u>						,				
1. Sample	rate for VOCs and rate for non-VOC	alysis ≂ 0.1 - 0.2 a onatvska = mo	2 L/minul ne rate :	ta =02-05t/i	minute							
	_	. /	20 10.00									
	n of Well:	1000		(14		- 6	· · · ·	1	<u> </u>			
Remarks	i: Twosd	15/19	ut	<u> 725 </u>	OCLOV	- 10	C > C	uples eff	<u> Priveses</u>	<u>P()</u>		
EIEI N E	QUIPMENT	•						•				
pH Mete		HYDROLA	B		Serial !	Number #	R41334		Number of	Bottles _	3X40mLV	
•	ture Meter	HYDROL					R41334				4X1LA	
	_						aMOTTE				1XLP	
Turbidity Meter HYDROLAS							R41334				1X250mLP	
Spec. Elec. Cond. Meter HYDROLAB							R41334	······	Field Note	book F	2104	
	ORP Meter HYDROLAB						R41334		,		7	
	D.O. Meter HYDROLAB							·· ·	Sample M	ethod Lov	w Fłow	
	Interface Probe SOLINST					Serial Number <u>#25582</u> Serial Number <u>#00320</u>						
	PID/OVA MINI-RAE						00320					
Pump_		EO-PUMP					3A0041		Discharge	Water Co	ntainerized	X Yes No
Filter Ap	paratus	EO45 MIC	RON	-D/W	<u>lesta 15</u>	+ D. Me	ve.		Discharge	TVOICE OU	,, p. (11 10) 12 (14	٠٠٠ لـــا ٥٠٠ لــــا



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Well Nan	ne <u>W1-19</u>)			Screen	Interval	14-19					
Project_	CTO 86-Site	1, Semi-An	nual		Station	Elevation	GND	TOC	Immiscible	Phases Pr	esent	∏Yes 🖟 No
	o. <u>1990.0</u>				Static V	Vater Level (fr	rom TOC) /	Time 5, 37/14	28 5.	37/14-	29 5.	37 /1430
	tion <u>Moffett</u>				Station Elevation GND TOC Immiscible Phases Present Yes Static Water Level (from TOC) / Time 5.37/1928 5.37/1929 5.37/19 Average Water Level (from TOC) 5.37							
	Date C				_		•		PID Readin	ns (backo	round) ØAA.	
	Personnel_		ON						PID Readin	a (TAC) f	374 m	
o ampinig		M.RAMOS					•		Notes			
~~~~~~·	·	W.IV.IVIOO_						RPTD	-			
Compte	D 86-\$1-12			<del></del>					reet or vva			
	-	<u> </u>			Depth o	of Bottom of T	uping <u>tr</u>	).0 <del></del>				<del></del>
Dublicate	e ID <u>N/A</u>	····			Depth t	o water (w/ i	nping in AA	ell) <u>5.37</u>	<del></del>			
						· · ·	PURGING			·		
	Discharge Rate ¹	Dissolved Oxygen		EMORP		Specific Conduct. (µmhos/cm	Turbidity	Cumulative Volume of Water Removed/Purged	PID/OVA		Depth to	0
Time	(Umin)	(mg/L)	pΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0725	.4	0.87		414		70075	4.4	• /			5.38	
0728	-4	0.28		236		69527	3.2	, 3			5,38	
0781	44	a.27	6.6		15,2	68758	2.7	٠ 5			5,40	
0734	• 4	0.24	6.4	185	15.4	68499	1.8	ッフ			5.41	
0736	Collet	Squpl	e.				•					
		,							<u> </u>			
		·										
					-							
					1		<del> </del>					
-	e ≈ 0.2 - 0.5 L/mi n shall be <0.33		<b>1</b>	<b></b>	<b>I</b> .			···-				
SAMPLE	PARAMETE	RS										
V	ocs	SVOC	S	PE	ST.	PCE	38	D.MERC	D.ME	TALS		
SAMPLE	RATE											
	Iclm	. 4			4	, 4	7	• 4	• 4			
2. Sample a	ate for VOCs and ate for non-VOCs of Well:	analysis = pur	ge rate =	0.2 - 0.5 L/n		les effe	e s Nece p	<i>I</i>				
FIELD E	QUIPMENT	HYDROLAE	3		Serial N	lumber #f	R41334		Number of	Bottles	3X40mLV	
•	ture Meter				Serial N		R41334			-	4X1LA	· ———
•	Meter	HYDROI					MOTTE			1	XLP	
-	c, Cond, Met						R41334			· · · · · · · · · · · · · · · · · · ·	1X250mLP	<del></del> -
ORP Mel		DROLAB	<u></u>	<del></del>			R41334	<del></del>	Field Notel	ook Pa	-98	
		DROLAB							, 1414 110101	<del></del>		
D.O. Met				<del></del>	Serial Number <u>#R41334</u> Serial Number <u>#25582</u>				Sample Method Low Flow			
Interface		INST	·-··-						GOLDBO MIC	~!VI _LUII	. 1011	
PID/OVA		II-RAE					00320 40044			<del></del>		
Pump		O-PUMP	DC*:				A0041	<del> </del>	Discharge	Matar Car	rhainerised	X Yes No
Filter App	paratus <u>G</u>	<u>EO45 MIC</u>	KON	<u></u>	MIGHT	<u>5t D.M</u>	141C.		Discussible	AAGIGL COL	nan ici izeti	ᅜᅝᆛ



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Well Narr	e <u>W1-22</u>				Screen	Interval	N/A				_	ra	
Project _	CTO 86-Site	<u>1, Semi-An</u>	nual		Station Elevation GND TOC Immiscible Phases Present Yes \( \text{No} \) Static Water Level (from TOC) / Time \( \frac{3.69}{1448} \) \( \frac{3.69}{1449} \) \( \frac{3.69}{1499} \) \( \frac{3.69}{1450} \) Average Water Level (from TOC) \( \frac{3.69}{3.69} \)								
Project No	o. <u>1990.08</u>	36E			Static V	Vater Level (fr	om TOC) /	Time 3.49/14	<u> 18 3.</u>	69/140	19 3.6	9/1450	
Well Loca	tion <u>Moffett</u>	Şite 1			Average	Water Level	(from TOO	) <u>3.69</u>				<del></del>	
Sample D	)ate 10/4	105						· · · · · · · · · · · · · · · · · · ·	PID Readings (background) Dpp-				
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation					<u>0pp~''</u>		
		B.Ogle									<u> </u>		
					Well De	oth MEAS	.75 F		Feet of Wal	er			
Sample I	D 86-S1-130	)			Possible 6 Post and 6 Total and								
_	ID <u>N/A</u>				Depth to Water (w/ Tubing in Well) 3, 69								
	<u>—</u>												
							PURGING						
						Specific	İ	Cumulative				į	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	į	
Time	(L/min)	(mg/L)	рH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1120	44	0.54	6.3	61	23,9	46217	320	, 2			3,72		
1123	.4	0.38	63	53	23.8	45727	176	, دا			3.12		
1126	'd	0 17	6,5	48	23.6	45831	118	. 6			7.73		
1129	,4	0.21	6.3	45	23.5	45264	83	. &			3.13		
1132	.4		4.3	40	23.4	44827	45	1.0			3.74		
_	,4	0.10	6.3	38	23.4	44014	18	1.2			3.74		
1135	.4	<del></del>	6.3		23 1	43862		1.4			3.15		
1/38	. 4		6.3		23.4	43570	15	1.6			3.75		
1/40	•			3 L	7,7	132.0	,,,	7.4.0			<u> </u>		
1145	Collect	Sampl	<u> </u>	<del>                                     </del>				<del></del>	<del> </del>				
			<del>                                     </del>	<del> </del>			<del></del>	<u>-</u>					
Notes:		. <u></u>	L	<u> </u>	<u>.                                    </u>		Ļ <u> </u>		<u> </u>		<u>.                                    </u>		
-	e = 0.2 - 0.5 L/mi n shali be <0.33 t												
SAMPLE	PARAMETE	RS											
V	ocs	SVOC	s	PE	ST.	PCE	38	D.MERC	D.ME	TALS			
SAMPLE				<u> </u>									
	1	<del>ं '' . य</del>		, 1	1	.,4		.4	, 5	, ,			
Notes:		· · · · · · · · · · · · · · · · · · ·		•	<del> </del>	· · · · · · · · · · · · · · · · · · ·							
,	ate for VOCs and ate for non-VOCs	-			ninuta								
•		1	10 14to	Q.Z - 0.0 DII	inijote								
	of Well:								····	<del> </del>		···	
Remarks	Tobal	Sligh	4.1	135 c	10/			<u> </u>			<u></u>	···	
FIELD E	QUIPMENT	•							_				
pH Meter		<u>HYDROLAE</u>	3		Serial N		R41334	<del> </del>	Number of	Bottles	_3X40mLV		
Тетрега	ture Meter	HYDROLA	8		Serial N	lumber <u>#</u>	R41334				4X1LA		
Turbidity	Meter	HYDRO	LAB		Serial N	Number <u>La</u>	aMOTTE_	<del></del>		1	XLP		
Spec. Ele	c. Cond. Met	er <u>HYDR</u>	OLAB	<del></del>	Serial N	lumber#	R41334				1X250mLP	A 4	
ORP Me	er <u>HY</u>	DROLAB		<del></del>	Serial 1	lumber#	R41334		Field Notel	∞ok <u>. P</u>	S 100 +1	01	
D.O. Mel	er <u>HY</u>	DROLAB			Serial 1	lumber#	R41334					<u> </u>	
Interface	ProbeSO	INST			Serial N	Number <u>#</u>	25582	<del></del>	Sample Me	ethod <u>Lov</u>	/ Flow		
PID/OVA		II-RAE			Serial I	viumber#	00320						
Pump		O-PUMP					A0041			<del></del>		<del></del>	
Filter App	paratus <u>G</u>	EO45 MIC	RON	- D.n	retals	+ D. Men	<		Discharge	Water Cor	ntainerized	X Yes   No	



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Well Nan	ne <u>W1-23</u>		<u> </u>		Screen	Interval	n/a			,			
Project _	CTO 86-Site	1, Semi-An	nuał		Station Elevation GND TOC Immiscible Phases Present Yes X No Static Water Level (from TOC) / Time 5.64/1438 5.64/1439 5.64 /1440  Average Water Level (from TOC) 5.64								
Project N	o. <u>1990.0</u>	B6E			Static V	Vater Level (fr	rom TOC) /	Time <u>5,64/14:</u>	38 <u>50</u>	64/143	9 5.69	1/1440	
Weli Loca	ation <u>Moffett</u>	Site 1			Average	e Water Level	(from TOC	5.64					
Sample i	Date				Reference Point TOC				PID Readin	gs (backg	round) <u>Op</u>	1m	
Sampling	Personnel _	D. HARRIS	ON		Reference Elevation				PID Readin	g (TOC) __	Oppur		
		B.Ogle			Static E	levation			Notes				
					Well De	epth MEAS	5.44 F						
Sample I	D <u>86-51-12</u>	7	~		Depth of Bottom of Tubing N 5.85								
•	Duplicate ID <u>N/A</u>					Depth to Water (w/ Tubing in Well) 5,64							
							PURGING	,					
		··					OKGING				<u> </u>		
						Specific		Cumulative					
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	]		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
					25.1	84561	1100 +				5.72		
0953	. 3	1,18	7.3		23.4		1000 T	12			5.76		
0954	Trech	ran	dN	_ <del></del>	ļ								
			7										
<u> </u>					1								
											i		
			1		1								
Notes:	e = 0.2 - 0.5 Umi	nida							•				
-	n shall be < 0.33												
SAMPLE	PARAMETE	ERS											
	/ocs	svoo	s	PE:	ST.	PÇI	BS	D.MERC	D,METALS				
SAMPLE		12				<u></u>			····				
		_	-						-				
Notes:	<del></del>	·				·		· · · · · · · · · · · · · · · · · · ·					
	ate for VOCs and ate for non-VOCs				minute								
-			go 1010 -	0.E - 0.0 D.									
	of Well:	soli .	115			<del></del>		···			<u>,</u>		
Remarks	Turbid	1. Storne	MA.	s octor					····		<del>,</del>		
<u>FIELD E</u>	QUIPMENT									D.#I	0V.10m1.V		
pH Mete		<u>HYDROLAI</u>	3	<del></del>			R41334	<del></del>	Number of	Bottles	3X40mLV		
Tempera	ture Meter	HYDROLA				<del></del> -	R41334	<del> </del>		<del></del>	4X1LA	<del></del>	
Turbidity Meter HYDROLAB							aMOTTE_	<del></del>			IXLP 1X250mLP		
Spec. Elec. Cond. Meter HYDROLAB							R41334	<del></del>	Field Make	Nack X	···		
ORP Meter <u>HYDROLAB</u>							R41334		Field Notel	DOCK	<del> -</del> 99	····	
D.O. Meter <u>HYDROLAB</u>				·			R41334		Days - 2 - 2 -	athenal Law	ı. Elau		
Interface Probe <u>SOLINST</u>							<u>25582</u>	<del></del>	Sample Me	stuod <u>rro</u> ń	A LIDM		
PID/OV/		VI-RAE					00320		<del> </del>				
Pump_		O-PUMP			Serial I	NumberB	A0041	<del></del>		Minte- ^-	atainari-ad	X Yes No	
Filter Ap	paratus <u>G</u>	<u>EO45 MIC</u>	RON						Discharge	vvater Co	ntainerized	ᄓᄤᄔᄤ	



Page	1 of	_1_
Data	10/3/05	

Well Name W1-24	Screen Interval	6-16				. <del>-</del>		
Project <u>CTO 86-Site 1, Semi-Annual</u>	Station Elevation GND TOC Immiscible Phases Present Yes K_No Static Water Level (from TOC) / Time 7.34 / 1513 7.34 / 1513 7.34 / 1513 7.34 / 1513							
Project No. <u>1990.086E</u>	Static Water Level (fr	om TOC) /	Time 7.34/15	13 7.3	4/151	3 7.34	1/1514	
Well Location Moffett- Site 1	Average Water Level	(from TOC	<u>) 7.34 '</u>	· · · · · · · · · · · · · · · · · · ·				
Sample Date 10/6/05	Reference PointT	oc		PID Readin	gs (backg	round) An	Λ (4	
Sampling Personnel D, HARRISON	Reference Elevation			PID Readin	a (TOC)	Oppile		
B.Ogle_	_		Notes	• ( /	77			
	Static Elevation Well Depth MEAS <u>7</u>	N.25 B	PTD					
Sample ID 86-S1-135	Well Depth MEAS 20,25 RPTD Feet of Water Depth of Bottom of Tubing 11							
· -	Depth to Mater (w/ Tubing in Mell) 7, 30							
Duplicate ID N/A	Depth to Water (w/ Tubing in Well) 7-34							
	<u> </u>	PURGING						
	Specific		Cumulative					
Discharge Dissolved	Conduct.		Volume of Water	PID/OVA	Reading			
	Temp. (µmhos/cm	Turbidity	Removed/Purged			Depth to	•	
Time (L/min) (mg/L) pH (mV)	(°C) at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
150 -4 0.44 6.6 30	21.8 59541	12	:2			7,36		
	21.4 59674	9.7	_4			7.37		
	20.7 59945		.6			7.39		
77-7	<del>                                 </del>	8.2				7.40	<del></del>	
1/0/	20,5 60221	4.3	. 8			1.40		
1510 Collect Sourple								
	<u> </u>		· · · · · · · · · · · · · · · · · · ·					
						<del></del>		
Notes:  1. Purge rate = 0.2 - 0.5 L/minute  2. Drawdown shall be <0.33 foot						-		
SAMPLE PARAMETERS								
	ST. PCE	as .	D.MERC	D.ME	TALS	<u> </u>	1	
SAMPLE RATE	31. 1 13.	<del>,,,</del> ,,,,,,	D.III.CO	<b>D</b>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	<u> </u>	<del> </del>	
	1 7		7	• (	7	I		
Notes:	7 4		- 7		· · · · · · · · · · · · · · · · · · ·	<u> </u>		
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/Condition of Well:  Condition of Well:		<del></del>						
Remarks: Clear/stight H25 ado	r -voc sav	<u> 1819 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818 - 1818</u>	effervesced	•			<u>.</u>	
FIELD EQUIPMENT								
pH Meter <u>HYDROLAB</u>	Serial Number#	741334	· · · · · · ·	Number of	Bottles	3X40mLV		
Temperature Meter HYDROLAB	Serial Number#	741334				4X1LA		
Turbidity Meter HYDROLAB	Serial Number	MOTTE	<del> </del>		1	XLP		
Spec. Elec. Cond. Meter HYDROLAB	Serial Number#	R41334				1X250mLP		
ORP Meter HYDROLAB	Serial Number #	R41334		Field Noteb	ook 📆	5/03+	100	
D.O. Meter HYDROLAB	*· <b>—</b> ·	R41334			U			
Interface Probe SOLINST		25582		Sample Method Low Flow				
PID/OVA MINI-RAE		00320						
Pump GEO-PUMP		A0041	· · · · · · · · · · · · · · ·					
		Merc.		Discharge 1	Water Cor	ntainerized	X Yes No	

SUPPLEMENTAL SAMPLING DATA

**JANUARY 2005** 



### Tetration of his.

Page,	1	of	1_
Date_	Janua	ry 31, 2	2005_

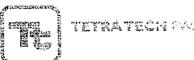
	eW1-1F				Screen I	nterval	14.3 -	24.3			. г	7 (V) NA	
Project	CTO 86 Site	1 R7/05			Station Elevation GND TOC				Immiscible Phases Present Yes X No				
Project No	ı,1990	).086E											
Well Loca	tionSite 1				Average Water Level (from TOC)					_7.77			
	ateja				Reference PointTOC					gs (backgr	ound)	0	
•	Personnel				Reference	e Elevation _			PID Reading	_ (TOC) g	0		
		Ramos							Notes				
Sample li	)	86-51-	084		-			19.3					
-	ID				•			19.3					
Duplicate								7					
						P	URGING					· ,·	
				i									
					i 1	Specific		Cumulative			:		
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		<b>EMORP</b>	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1455	0.4	0.21	6.6	236	22.6	66500	1.2	0.25			<u> </u>	<u> </u>	
1458	0.4	0.11	6.6	218	22.3	67305	1.4	0.5	<u></u>	<u></u>			
1501	0.4	0.11	6.6	222	21.7	67109	1	0.75		<u> </u>	<u> </u>		
1504	0.4	0.11	6.6	226	21.4	66940	0.98	1					
1507	0.4	0.1	6.6	234	21.1	66372	0.97	1.3					
1510			6.6	240	20.8	66130	0.95	1.5					
1513						66136	0.95	1.8					
1516	<del>}</del>		1	<del>}</del>	<del>1</del>	66160	·	2					
	<del></del>		<del></del>				0.9						
1519	<del></del>	ļ	<del></del>	<del> </del>	<del> </del>	<del></del>				<u> </u>			
1522	<del></del>	i		<del> </del>	20.0	00100	3.00	<u> </u>	<del>                                     </del>	<del>                                     </del>	ļ		
1525 Notes:	Well stabaliz	ea - began s	samplin	1	<u>.</u>	L		1	1	<u> </u>	. <del></del>		
1. Purge rat	te ≃ 0.2 - 0.5 L/mi												
2. Drawdov	SE.O> ad Iliada nv	foot											
SAMPLE	PARAMET	ERS							<del>,</del>		<del></del>	<del></del>	
2 X	SVOCs	1 X Dis.	Mer.	Τ		<u> </u>				· · · ·	<u> </u>		
SAMPLI	RATE					1		<del>,</del>	<del></del>		<del></del>	<del></del>	
	0.4	0.4		<u></u>		<u> </u>		<u> </u>	<u> </u>		4	<u> </u>	
Notes:	rate for VOCs and	etvsis = 0.1 - 0.2	: U/minut	e									
2. Sample	rate for non-VOC	s analysis = pur	ge rate =	: 0.2 + 0.5 L/r	minute								
Conditio	n of Well:					Good			······································				
Remarks	š:	Still r	need to	paint				<del></del>				<del></del>	
FIELD E	QUIPMENT												
	κ	Hydrolab			Serial	Number		_3656	Number o	f Bottles _	2 X 1LA		
	ature Meter				Serial	Number		3656		1 X	250ml poly	·····	
	Meter					Number		3656				····	
	lec. Cond. Me					Number		3656	Field Note	ebook <i>6</i>	<u> </u>		
•		-				Number		3656					
	eterHyd					Number		3656	Sample M	lethod	Low Flo	w	
D.O. MeterHydrolab						Number		25582					
Interface ProbeSolinst PID/OVAMini-Rae								00320	<del></del>				
						Number		AG041	*				
	Ge				Seusi	Number		AUV41	Dienhara	Mater C	ontainerized	X Yes N	
Filter As	oparatus	NA							Ciscitais	. Mariel O	SURGIN IOI IEQU	ਨਾ. · • ਜੀ '	



### TETRATECH PAINC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page _	_1_	of	1
Date	Januai	y 31, 2	005_

A CONTRACTOR OF THE	-24 ⁷											
Well Nam	eW1-5_				Screen i	nterval	14.5	- 19.5			_	
Project	CTO 86 Site	1 R7/05			Station E	Elevation	GND	TOC	Immiscible l	Phases Pre	esent	Yes X No
. —	1990							Time _5.32/1242	5.32/	1242	5.32/124	2
	tionSite 1				Average	Water Level (	(from TOC)		_5.32			
	ateF		005		_			oc	PID Reading	gs (backgr	ound)	0
	Personnel					•			PID Reading	g (TOC)	0_	
, ,		Ramos							Notes			
		<u>_</u>										
Sample II	)	86-81	-092_					17				
-	:ID	•						5.3				
					•		PURGING			<del>- · · · · · · · · · · · · · · · · · · ·</del>		<del></del>
			···			<u> </u>	UKGING				i	
ì				İ		0		_ , ,,				
	Disabaras	50 11	[			Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Discharge Rate ¹	Dissolved Oxygen		EWORP	Temp	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(Umin)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1345	0.4	0.54		294	1	56250	· · · · · · · · · · · · · · · · · · ·	0.25				
1348		0.14	<del></del> -		<del>[</del>	57034		0.5				
1351	0.4	0.09		<del> </del>	<del></del>	57043	0.8	0.75				
1354		0.08	<del> </del>	<del> </del>		57940		1				
1357	0.4	0.07			<del></del>	57716		1.3	-	<del></del>		
1400	0.4	0.06	<del></del>		<del> </del>	· · · · · · · · · · · · · · · · · · ·		1.6		<u> </u>		
1403	0.4	0.05		<del> </del>	<del></del>			1.8				
1406	0,4	···	<del></del>	263	<del></del>		0.2	2				
1400			<del>                                     </del>									
<del></del>			-	1	<del>                                     </del>							
1415 stai	]			<del> </del>	1	,	<del></del>		······			
Notes:		<u> </u>		·			<u> </u>					
-	e = 0.2 - 0.5 L/mi in shall be <0.33											
	PARAMETE	1 X Dis.	Mor	T		<del> </del>		l	1		T	
	SVOCs	I V DIS.	MICI.	<u> </u>				1	<u> </u>		<u>.l</u>	
SAMPLE		T 04		<del></del>		T		1	1		1	
Notes:	0.4	0.4		ــــــــــــــــــــــــــــــــــــــ		<u> </u>		<u> </u>	<u>.l</u>	··	<u> </u>	<u> </u>
1. Sample i	rate for VOCs and							•				
	rate for non-VOC					03						
	n of Well:					Good				<del></del>		
Remarks	s:											
	QUIPMENT							2052	\$ t	r Dallas	2 X 1LA	
*	r					Number		_3656			250mi poly	
	ature Meter					Number		3656		——, , ,	250/// poly	
	/ Meter					Number		3656	Field Note	hook	70	
-	lec, Cond. Me							_3656	FIEIG NOCE		<u> </u>	
	eterHyd					Number		3656	Comple 84	lathad	Low Flo	
	eterHy					Number		3656	⊅arubie i∧	eti kad	LOW FIO	***
	e Probe					Number		5582				
	A					Number		00320			w	
	Ged				Serial	Number	8/	A0041	Dipohora	Matar Ca	ontainerized	X Yes No
Filter Ap	paratus	NA		<b></b>					Discharge	s water of	antan tenzeu	



# TETRATECH PACIFIC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page_	_1_	_ of	_1_
Date _J	lanua	ry 31, 2	005_

CHARACTE	1355-										,	
Well Nam	eW1-8_				Screen I	nterval	13 -	18				
ProjectCTO 86 Site 1 R7/05					Station Elevation GNDTOC				Immiscible Phases Present Yes X No			
	1990							Time _5.35/1244			_	<u> </u>
Well LocationSite 1												
Sample DateFebruary 2, 2005					Reference PointTOC				PID Readings (background)0			
_	Personnel				Reference Elevation				PID Reading (TOC) 0			
		Ramos										
•								RPTD				
Sample II	0	86-S1	-093_					15.5				
Duplicate	ID		-	· l	-			l)5.35				
					•				<del></del>		<del></del>	
- <del></del>							PURGING	<del></del>				
								-				
	<b></b>					Specific		Cumulative	PID/OVA	Reading		
	Discharge Rate ¹	Dissolved		EN/ORP	Temn	Conduct. (µmhos/cm	Turbidity	Volume of Water Removed/Purged	112.007		Depth to	
Time	(L/min)	Oxygen ( (mg/L)	рΉ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1425	0.4	0.23	7.4			39612	1.4	0.25				
1428	0.4	0.15	7.4			39304	1.4	0.5				
1431	0.4	0,1	7.4	291	23.94	38481	1.4	0.75				
1434	0.4	0.09		288		36986	1.3	1				•
1437	0.4	0.08			<del> </del>	36691	1.3	1.3				·····
1440	0.4	0.08			<del></del>	36559		1,6				
1443	0.4	0.09		<del></del>		36534		1.8				
1446	0.4	0.08		<del></del>	<del></del>	36500	<del> </del>	2	<del></del>			
1449	0.4	0.09		<del></del>	<del>                                     </del>	36498		2.25				
1452		-			<del> </del>	36491	1.2	2.5				
1500 star			<u> </u>						1	<b>1</b>		
Notes:		J	l	•	. <del>K ,</del> ,	<del> </del>	<u> </u>			•		
-	e = 0.2 - 0.5 L/mi m shall be <0.33 °											
	PARAMETE		Mar			T		Τ	1	<del></del>	1	
	SVOCs	1 X Dis.	wer.	<u> </u>	· · · · · · · · · · · · · · · · · · ·	<u> </u>		<u> </u>	1		<u></u>	<u> </u>
SAMPLE				<del></del>		<u> </u>		<u> </u>	<del></del>		1	<del>- 1</del>
Notes:	0.4	0.4	· · · · · · · · · · · · · · · · · · ·	<u> </u>		<u> </u>	<del></del>	<u> </u>	<u> </u>	<del></del>	<u>. I</u>	<u>t</u>
	ate for VOCs and											
-	rate for non-VOCs		-									
	n of Well:					300d					<del></del>	<del></del>
	s:										<del>,</del>	
	QUIPMENT										6 V 41 A	
pH MeterHydrolab				Serial Number3656			Number of Bottles2 X 1LA 1 X 250ml poly					
Temperature MeterHydrolab				Serial Number 3656				1 X :	zoumi poly			
Turbidity Meter Hydrolab							3656					
Spec. Elec. Cond. MeterHydrolab							_3656	Field Notebook 70				
ORP MeterHydrolab				Serial Number 3656			Sample Method Low Flow					
	terHy				Serial Number 3656				Sample M	eruog	LOW FIO	W.
	Probe					Number		5582			·	
	٨ا				Serial Number 00320					·		
	Geo				Serial	Number		\G041	Discher	186-2 0-		V Voc Day
Filter Ap	paratus	NA							Discharge	vvater Co	ntainerized	X Yes No



### TETRATECH PRINC.

### **LOW-FLOW GROUNDWATER SAMPLING DATA SHEET**

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Date _January 31, 2005_

43-1402-400	772.							×			<del></del>	······
Well Nam	eW1-12	2R	•		Screen I	nterval	15 - :	25			_	
roject	CTO 86 Site	1 R7/05			Station E	Elevation	GND _	TOC	Immiscible Phases Present Yes X No			
Project No	o1996	0.0868			Static W	ater Level (fro	om TOC) /	Time _2.56/1233	2.58/	1234	2.58/123	5
Vell Loca	tionSite 1				Average	Water Level	(from TOC)		_2.58			
Sample D	ateF	ebruary 1, 20	005		Referen	ce Point	TC	DC	PID Reading	gs (backgr	ound)	0
	Personnel								PID Reading	_ (TOC) g	0	
		Ramos_										
					Well De	pth MEAS _2	5.69 RF					
Sample II	00	86-S1-	-089		Depth of	f Bottom of Ti	ubing	20	<u> </u>			
Duplicate	ID	86-S1	-090	<u> </u>	Depth to	Water (w/ Tr	ubing in wel	i)2.58_				
							URGING		···	<u> </u>		
						Specific		Cumulative	ŀ			
ļ	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		
	Rate [†]	Oxygen		EN/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1439	0.4	0.35	7	316	24.3	50144	40	0.25				
1442	0.4	0.13	7	313		56043		0.5				
1445	0.4	0.1	7	311	23.7	56100		0.75	<del></del>		<u> </u>	
1448	0.4	0.08	7	391	23.6	56550		<u> </u>	<del></del>			
1451	0.4	0.07	7	284	23.5	56772		1.3	<del>                                     </del>			
1454	0.4	0.07	7	281	23.4	56668	26	1.6		<b> </b>		
1457	0.4	0.07	7	282	23.4	56689	37	1.8		ļ		
					<u> </u>				ļ			
										<u> </u>		
			<u> </u>		<u> </u>					<u> </u>		
1500 star					<u> </u>	<u> </u>			<u> </u>	1	<u> </u>	
	e = 0.2 - 0.5 L/mi in shall be <0.33											
SAMPLE	PARAMET	ERS										
	SVOCs	2 X Dis.	Mer.	T								
SAMPLE	RATE	·		· <del></del>		<u> </u>						
	0.4	0.4		T								
2 Sample of Condition	rate for VOCs and rate for non-VOCs n of Well:	s analysis = pur	ge rate ≖	: 0.2 - 0.5 L/r		Good					·	<del>,</del>
	QUIPMENT					<u></u>						
	r	Hydrolah			Serial I	Number		3656	Number of	Bottles .	4 X 1LA	
-	ture Meter					Number		3656			250ml poly	
•	Meter					Number		3656				
						Number		3656	Field Note	book	68	
Spec. Elec. Cond. MeterHydrolab						Number		3656				
ORP MeterHydrolab						Number		3656	Sample M	ethod	Low Flo	W
	Probe					Number		5582				
	A					Number		00320				
	Geo					Number		A0041				
	maratus								Discharge	Water Co	ntainerized	X Yes No



### TETRATECH PARKS. LOW-FLOW GROUNDWATER **SAMPLING DATA SHEET**

Page_	_1_	of	1
Date_J	anua	ry 31, 2	2005_

Secretaries.	क्ट _{क्}				_									
Well Nam	eW1-14	<u> </u>			Screen Interval4.1 - 14.1									
	CTO 86 Site			_					Immiscible Phases Present Yes X No					
	1990								5.22/1220 5.20/1221					
•	tionSite 1										·			
Sample D	ateF	ebruary 1, 20	05		-		-					0		
	Personnel								PID Reading	g (TOC) _	0_			
,		Ramos_				_								
Sample II	)	86-S1-	-088					9.1						
-	ID	•						5.21						
Dapaoaco					Бората			"/						
					,	F	URGING							
İ										·				
			:			Specific		Cumulative	210/0/4	Dandina				
1	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	Depth to			
	Rate ¹	Oxygen		Eh/ORP		(µmhos/cm		Removed/Purged	Location	Value	Water ² (ft)	Comments		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons) 0.25		Value	vvalei (il)	Consilients		
1325	0.4				23.3	54472	32				<del> </del>			
1328	0.4	0.12		<del> </del>			18		<del></del>					
1331	0.4	0.11	7			55058	<del></del>			<del></del>				
1334	0.4	0.07		<del></del>		55170			<del> </del>			· <del>- ·-</del> ·		
1337	0.4	0.07	<del></del>	<del> </del>	<del> </del>	55220		1.3	<del>[</del>					
1340	0.4	0.06			<del>!</del>	55289	13		<u> </u>	ļ				
1343	0.4	0.07	<del>}</del>	<del></del>	1	<del>}</del>	10		<del>}</del>	<del> </del>	<u> </u>			
1346	0.4			+			7			<del>                                     </del>				
1349	0.4	0.07	7	85					+···	<del> </del> -	<u> </u>	<del></del>		
1352		0.07	7	84	22.6	55118	4	2.5	-	ļ				
1400 star		<u> </u>	<u> </u>	<u> </u>	<u>L</u>		L	<u> </u>	<u> </u>	<u> </u>		<del></del> -		
Notes: 1 Puros rati	e = 0.2 - 0.5 L/mi	nute												
_	n shall be <0.33													
SAMPLE	PARAMETE	ERS												
	SVOCs	1 X Dis.	Mer.	T					T	-				
SAMPLE						4		A	·····					
	0.4	0.4												
Notes:				<u> </u>		<u> </u>								
	ate for VOCs and rate for non-VOC:				mioute									
	of Well:					Good								
					`									
	i:													
	QUIPMENT				A			sere	Number	Dattles	3 X 1LA			
	r					Vumber		_3656			250ml poly			
	ture Meter					Number				' ^ ·	zоони рогу <u></u>			
	Meter					Number		_3656	Field Mate	haale	67	<del></del>		
•	ec. Cond. Me					Number		_3656	Ligid Mote	DOOK	<del>, , , , , , , , , , , , , , , , , , , </del>			
	terHyd					Number		_3656	Camula **		Low Flo			
	terHy					Number	•	3656	•					
	Probe					Number		25582						
	لـــــــــــــــــــــــــــــــــــــ					Number		00320						
Pump	Geo	>-Pump			Serial	митрег	B	A0041	Disabases	Motor O	untainarizad	X Yes No		
Z=114 4		818												



### TETRATECH CALLAC.

# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	_1_	_of	_1_
Date_J	anual	ry 31, 2	2005_

4	200	<del></del>			-				****				
Well Nam	eW1-15	5			Screen I	nterval	4.4 - 1	4.4			F	<b>~</b>	
	CTO 86 Site				Station E	levation	GND_	TOC	Immiscible Phases Present Yes X No				
Project No	1990	0.086E							5.43/12085.42/1209				
Well Loca	tionSite 1				Average	Water Level	(from TOC)		_5.43				
Sample D	ateF	ebruary 1, 20	05		Reference	ce Point	T(					0	
	Personnel				Reference	ce Elevation _			PID Reading	_ (TOC) g		_0	
		Ramos_							Notes				
									Feet of Wat	er		<del></del>	
Sample II	0	86-S1-	-085					9.4			<del></del>		
- Dup <del>l</del> icate	ID	_NA			Depth to	Water (w/ Ti	ubing in wel	l)5.4					
						F	URGING						
				_									
						Specific	1	Cumulative					
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	- u .		
	Rate ¹	Oxygen		EMORP				Removed/Purged			Depth to	Q	
Time	(L/min)	(mg/L)	ρH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
754	0.4	0.47	6.8	206	12.7	54859		0.25					
757	0.4	0.2	6.8	159	13.3	55033		0.5		<u> </u>			
800	0.4	0.13	6.8	67	14.9	55062	4.9	0.75			<u> </u>	·	
803	0.4	0.11	6.8	60	15.3	54986	3.3	1					
806	0.4	0.09	6.7	49	16.7	56833	3	1.3					
809	0.4	0.09	6.7	44	16.9	50850	3	1.5					
812	0.4	0.08	6.7	48	17	50623	1.8	1.8			ļ		
815	0.4	0.08	6.7	44	17	50613	1.8	2	<u> </u>		ļ		
818	0.4	0.08	6.7	44	17.1	50589	1.7	2.25	<u> </u>	<del></del>	ļ		
					<u> </u>		<u> </u>		ļ	ļ	ļ	<u> </u>	
821	Well stabaliz	ed - began s	amplin	<u> </u>	<u> </u>		<u> </u>		<u></u>	1	<u> </u>	<u> </u>	
Notes:	te = 0.2 - 0.5 L/mi	nute											
	cc.03 ad illerte nv												
SAMPLI	E PARAMETI	ERS											
6 X	SVOCs	3 X Dis.	Mer.	1					<u> </u>		<u> </u>		
SAMPL	RATE			,		·	<del></del>	· · · · · · · · · · · · · · · · · · ·	<del></del>		1		
	0.4	0.4		<u> </u>		<u> </u>		<u>                                     </u>	<u> </u>		<u> </u>		
Notes: 1 Sample	rate for VOCs and	atvsis = 0.1 - 0.2	. L/minut	e									
	rate for non-VOC				minute								
Conditio	n of Well:					Good					<del></del>	<del>-,</del> -	
Remark	6:							··					
FIELD E	QUIPMENT										67/41.6		
pH Mete	er	Hydrolab			Serial	Number	<del> </del>	3656	Number o		6 X 1LA		
Tempera	ature Meter _	Hydrolal	b		Serial	Number		3656		3 X	250m1 poly		
	y Meter				Serial	Number		_3656					
Spec. E	lec. Cond. Me	eterHydr	olab		Serial	Number		3656	Field Note	book	(> (>	·· <del>···</del>	
	eterHy				Serial	Number		3656					
D.O. Meter Hydrolab					Serial	Number		3656	Sample M	fethod	Low Fig	λΑ	
	e Probe					Number		25582					
	'A					Number		_00320					
Pump_	Ge	o-Pump			Serial	Number	B	A0041				TO TO	
Filter A.	onorofue	NiΔ							Discharg	e Water Co	ontainerized	X Yes N	

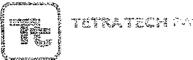


Filter Apparatus _____NA_

### TETRATECH (NOTICE LOW-FLOW GROUNDWATER SAMPLING DATA SHEET SAMPLING DATA SHEET

Page1 of1_
Date _January 31, 2005_

Same	nif					<del> </del>							
	eW1-16							5.4			r	m	
Project	CTO 86 Site	1 R7/05								Immiscible Phases Present Yes X No			
	o1990												
Well Local	tionSite 1							) <u></u>	_7.50				
	ateF									-	ound)		
Sampling	Personnel	Ogle			Reference	ce Elevation _						<del></del>	
		Ramos_											
								RPTD					
	D	86-S1	-095					10.4					
Duplicate	· ID	NA			Depth to	Water (w/ Ti	tpiud iu me	ll)7.50_		<del></del> .			
						F	URGING						
	·			1									
						Specific		Cumulative					
	Discharge	Dissolved		}		Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		ENORP		(µmhos/cm		Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1600	0.4	0.42	6.8	106	<del></del>	61461	1.2	0.25	ļ <u> </u>	Ļ <b>_</b>	ļl		
1603	0.4	0.17	6.8	96	24.32	62006		0.5		ļ			
1606	0.4	0.13	6.8	85	24.09	62069	0.2	0.75		ļ	ļ		
1609	0.4	0.1	6.8	77	23.91	62121	0.1	1					
1612	0.4	0.07	6.8	67	23.56	62241	0.4	1.3					
1615	0.4	0,06	6.8	70	23.55	62155	0.4						
1618	0.4	0.04	6.8	67	23.48	62190	0.4	1.8		<b>.</b>			
1621	0.4	0.05	6.8	66	23.46	62154	0.3	2				<del> </del>	
											ļ		
					·				<u> </u>	<u> </u>			
1630 star								<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	
Notes:	te = 0.2 - 0.5 L/mi	outo										·	
-	on shall be <0.33												
SAMPLE	PARAMETE	ERS											
	SVOCs	1 X Dis.	Mer.	1					1		1	<u> </u>	
SAMPLE			,			<del>1 </del>							
	0.4	0.4		1									
Notes:						<del></del>							
•	rate for VOCs and rate for non-VOCs	•			ninute								
•	n of Well:	-				Good							
	S:		-		`								
							·						
	<u>QUIPMENT</u>	Liudeolah			Sorial I	Number		_3656	Namber a	f Bottles	2 X 1LA		
	r					Number			1141119414		250ml poly		
-	ature Meter					Number		3656		^			
_	Meter							_3656	Field Note	book 7	,		
•	lec. Cond. Me							3656	. 10.0 1100				
ORP MeterHydrolab						Number Number		3656	Sample M	lethod	Low Flo	w	
								25582	ourspie W				
Interface Probe Solinst PID/OVA Mini-Rae						Number Number		00320				···	
						Number Number		A0041			<del></del>	<del></del>	
	Geo				Seligi	rambel	^D ,		Discharge	- Water Co	ontainerized	X Yes N	
FIRET AL	DOSCIEUS	INA.							,				



# TETRATECH PALING. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page _	_1_	_ of	1_
Date_	Janura	ıy 31, 2	2005_

A-Mandaninania	<i>ഷ</i> ്					<del></del>					<del></del>		
Well Nam	eW1-19	)			Screen I	nterval	14 - 19	9					
	CTO 86 Site								tmmiscible Phases Present Yes X No				
. —	1990							 Fime _4.76/1214	4.75/	1215	_		
•	tionSite 1								4.76				
	ateF		005		-						ound)	0	
	Personnel					· · · · · · · · · · · · · · · · · · ·							
oumpan ig		Ramos											
Sampie li	1	86-81	-086					16.5		<u></u>			
-	ID	NA						l)4.77					
Dabicate								·/	· · · · · · · · · · · · · · · · · · ·				
						P	URGING						
											<b>[</b>	[ }	
						Specific		Cumulative	DID (OUA	D	]	1	
	Discharge	Dissolved			_	Conduct.		Volume of Water	PID/OVA	Reading	R		
	Rate ¹	Oxygen		Eh/ORP		(µmhos/cm	Turbidity	Removed/Purged	1 - antion	Value	Depth to Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	value	vvalei (ii)	Comments	
1243	0.4	0.27	6.9			47946	0.7	0.25					
1245	0,4	0.15		286		48361	0.6		<del></del>		ļ		
1249	0.4	0.11	6.9	···		47226	1.6				<b></b>		
1252	0.4	0.1	6.8	163	25.82	46988	2.5						
1255	0.4	0.08	6.8	159	25.02	48702	1.6		<del></del>		<u> </u>		
1258	0.4	0.07	6.8	156	24.99	48829	1.5	1.5			ļ		
1300	0.4	0.07	6.8	155	24.98	48777	1.4	1.8	<del></del>	L	<u> </u>		
										ļ			
			<u> </u>				<u></u>						
		<u> </u>		<u> </u>	ļ						<u> </u>		
1300	Well stabaliz	ed - began s	amplin	<u> </u>	<u> </u>	<u> </u>	L	ļ <u></u>		<u> </u>			
Notes:	e = 0.2 - 0.5 L/mi	suto											
-	m shali be <0.33												
SAMPLE	PARAMET	RS											
	SVOCs	1 X Dis.	Mer	T				]			1		
SAMPLE		1 1 X DIS.	19101.	<u> </u>				<u> </u>	<u> </u>		<u> </u>		
SAMPLE		0.4	<del>_</del>	Υ		<u> </u>		1	<del> </del>		T	<del>-    </del>	
Notes:	0.4	J V:4		1,		<u>L</u>			.1		1		
1. Sample (	rate for VOCs and												
-	rate for non-VOC					n							
	n of Weil:					Good					*		
Remarks	3:							······································			<del></del> -		
	QUIPMENT										~ \/ 4\ 4		
	r				Serial (	Number		_3656			2 X 1LA		
Tempera	ature Meter	Hydrolat	·	<del></del>		Number		3656		1 X :	250mi poly		
Turbidity	Meter	_Hydrolab		<del></del>		Number		3656			67		
Spec. Æl	lec. Cond. Me	terHydri	olab			Number		_3656	Field Note	book	6.1		
	eterHyd					Number		_3656					
	terH				Serial	Number		3656	Sample M	ethod	Low Flo	W	
	Probe				Serial	Number		25582					
	A				Serial	Number		00320				<del></del>	
	Ge				Serial	Number	8	A0041					
Filter Ap	paratus	NA							Discharge	Water Co	ontainerized	X Yes No	



# TETRATECH TYPING. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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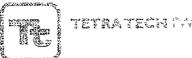
£														
Well Nam	eW1-22	2			Screen Interval NA									
	CTO 86 Site									Immiscible Phases Present Yes X No				
	199													
•	tionSite 1				_ Average Water Level (from TOC)					3.45				
	ateF		05								ound)	0		
	Personnel									-				
Cambina		Ramoş												
				<del></del>	Well the	nth MEAS	6.69	RPTD						
Sample I	D	86-\$1-	091					66			······································			
	ID	NA NA						ii)3.45						
						, , , , , , , , , , , , , , , , , , ,						<del></del>		
				<b></b>			URGING							
			:						ĺ					
						Specific		Cumulative						
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading				
<b>-</b>	Rate ¹	Охудел	_12	Eh/ORP				Removed/Purged		1/201	Depth to Water ² (ft)	^		
Time	(L/min)	(mg/L)	pHi -	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	vvater (it)	Comments		
1308	0.4	0.4	7			10183		0.25 0.5	<del></del>	<del></del>				
1311	0.4	0.22	7					0.75	<del> </del>	-				
1314	0.4	0.06	7					0.73	<del>                                     </del>	<del> </del>				
1317		0.00	7		23.50			1.3	<del></del>	<del> </del>				
1320	0.4		7				1.4	1.6	<del> </del>	<del></del>				
1323	0.4	0.06		121	24.00	3///	1.3	1.0	<del> </del>	<del> </del>				
ļ		<del> </del>		<u> </u>					-	<del> </del>				
			<u> </u>	<del>                                     </del>	<u> </u>		<u> </u>		<del>[</del>	<del> </del> -				
			<u> </u>	<del> </del>	<del> </del>	<del> </del>		· · · · · · · · · · · · · · · · · · ·	<del> </del>	<del> </del>				
1222				<del> </del>		<u> </u>		<u> </u>		<del> </del>	<del> </del>			
1330 star Notes:	<u> </u>		l	<u></u>	1	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L				
•	e = 0.2 - 0.5 t./mir													
2. Drawdów	m shall be <0.331	IDG!												
SAMPLE	PARAMETE					···		<del>,</del>	<del></del>	<del></del>				
2 X	SVOCs	1 X Dis.	Mer.	<u>                                     </u>				<u> </u>	<u>l</u>			i		
SAMPLE	RATE					<del></del>			<del>, .</del>			<del></del>		
	0.4	0.4				<u> </u>		<u> </u>	<u> </u>			<u>1</u>		
Notes: 1. Sample r	ate for VOCs ana	lysis = 0.1 + 0.2	Uminut	e										
,	ete for non-VOCs	•			etunir									
Condition	of Well:				(	300d			<del></del>					
Remarks	:													
FIELD E	QUIPMENT													
pH Meter	r	Hydrolab_			Serial I	Number		_3656	Number of	Bottles	2 X 1 LA			
Tempera	ture Meter	Hydrolab	)		Serial I	Number		3656		1 X 2	250ml poly			
	Meter					Number		_3656						
•	ec. Cond. Me			==- =="	Serial I	Number		_3656	Field Note	book 6	9			
•	terHyd					Number		_3656						
	terHy					Number		3656	Sample M	ethod	Low Flor	·		
	Probe					Number		5582						
	\					Number		00320						
	Geo					Number		A0041						
-	paratus				<u>_</u>			<u> </u>	Discharge	Water Co	ntainerized	X Yes No		



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	1_	_ of _	1_
Date	_Janua	ry 31, 2	2005_

* Presentances	الأون									Win 19 19 4 4		·		
Well Nam	eW1-23	3			Screen I	nterval	NA							
	CTO 86 Site				Station Elevation GND TOC				Immiscible Phases Present Yes X No					
	1990									5.61/12285.60/1229				
-	tionSite 1									5.61				
	ateF											0		
Sampling	Personnel	Onle												
Camping		Ramos_								_				
		IValiiQa_						OT'		-				
		00.04	007			_			reer or wat					
	D					f Bottom of To								
Duplicate	: ID	_NA			Depth to	Water (w/ Ti	ubing in we	ll)5.61			····			
<del>-</del>						F	URGING	···				į		
			· · · ·											
						Specific		Cumulative						
[ [	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	· .			
	Rate ¹	Oxygen		Eħ/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged		,	Depth to			
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	" at °C)	(NTU)	(Galions)	Location	Value	Water2 (ft)	Comments		
1414	0.4	0.3	7.2	157		82139	err	0.25						
1417	0.4	0.22	7.2	<del> </del>	ţ	82873		0.5						
	0.4		7.3	<del> </del>				0.75						
1420		0.2	7.3	<del></del>	<del> </del>		<del> </del>	1				<del></del>		
1423	0.4	<del> </del>	7.3			00002	[	<u> </u>	-		<u> </u>			
1426	0.4	0.2	7.5	130	21.1			<del> </del>		-				
					ļ				<del> </del>	<del>                                     </del>				
ļ		<u> </u>	<del> </del> -	<del> </del>	<del></del>	<u> </u>	<del>                                     </del>		<del></del>	<del> </del>				
Well emp			<u> </u>	<b> </b>	<del> </del>		ļ		<del>                                     </del>					
			ļ	<u> </u>	<u> </u>	ļ	ļ <u>-</u>	<del></del>	<del> </del>	<del> </del>				
<u></u>			ļ	ļ	<del>  </del>	ļ	ļ			<del> </del>	<b></b>			
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>			<u> </u>	<u> </u>	<u> L</u>	<u>.                                    </u>	,j		
Notes:	te = 0.2 - 0.5 L/mi	nute												
•	m shall be <0.33													
SAMPLE	E PARAMETI	FRS												
	SVOCs	1 X Dis.	Mer	T		1		1						
SAMPLE		1 1 X DIG.	10101.	<del>.l</del>		<u> </u>					<u></u>			
SAMPLE				7		T			1	<del></del>				
Notes:	0.4	0.4		<u> </u>		<u> </u>		<u> </u>			<u></u>	<u> </u>		
1. Sample :	rate for VOCs and													
	rate for non-VOC													
Conditio	n of Well:					Good								
Remarks	š:													
FIELD E	QUIPMENT													
pH Mete	c	Hydrolab	<del></del>		Serial !	Number		_3656		-	3 X 1LA			
Tempera	ature Meter _	Hydrolal	<u> </u>		Serial :	Number		3656		1 X	250ml poly			
-	/ Meter				Serial	Number		3656						
-	lec. Cond. Me					Number		3656	Field Note	book	68			
ORP MeterHydrolab						Number		3656						
D.O. Meter Hydrolab						Number		3656	Sample M	lethod	Low Flo	w		
						Number		25582						
Interface ProbeSolinst PID/OVAMini-Rae						Number		00320						
Pump Geo-Pump						Number		A0041						
	paratus				Ç0,141			- · · · · · · · · · · · · · · · · · · ·	Discharge	e Water Co	ontainerized	X Yes No		
FRIET AL	/haiaing ****													



Filter Apparatus ____

## TETRATECH COUNTY. SAMPLING DATA SHEET

Page1 of1_	_
Date _January 31, 2005_	

Same and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same	المنافعة									-			
Well Nam	eW1-24				Screen I	nterval	6-1	6					
	CTO 86 Site								Immiscible Phases Present Yes X No				
-	o1990				Static Water Level (from TOC) / Time _6.98/1251								
-	tionSite 1				Average Water Level (from TOC)								
	ateF				Referen	ce Point	T(	oc	PID Reading	js (backgr	ound)	0	
	Personnel								PID Reading	_ (τος) ₌	0_		
		Ramos							Notes				
					Well De	pth MEAS	20.28	RPTD	Feet of Wat	er			
Sample II	D	86-\$1-	094_					11					
-	ID							l)6.98_					
					····					······································			
	· · · · · ·	····	1				PURGING		<del></del>		1		
	Dibanna					Specific Conduct.	:	Cumulative	PID/OVA	Reading			
1	Discharge Rate ¹	Dissolved		E₩ORP	Temn	(µmhos/cm	Turbidity	Volume of Water Removed/Purged			Depth to		
Time	(L/min)	Oxygen (mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1515	0.4	0.21											
1518		0.11	7				1.4	0.5					
1521	0.4	0.08		73	24.24	49489	1.3	0.75					
1524		0.08				49590	1.3	1					
1527	0.4	0.07					<del> </del>	1.3					
1530		0.07		60									
1533		0.08				49680							
1536	<del></del>		1	<del></del>	1		-	<u> </u>				· -	
1539			<del> </del>		<del></del>		<del>                                     </del>	2.25					
1000	<del> </del>	****											
1545 star			i		,		1						
Notes:				<u></u>		·	•						
~	te = 0.2 - 0.5 L/mi an shall be <0.33 t												
	PARAMETE	1 X Dis.	2010	1		T		<u>T </u>			T	<u></u>	
SAMPLE	SVOCs	I I A DIS.	WEI,	<u>.                                    </u>		<u> </u>		<u> </u>				<del></del> .	
SAMPLE	0.4	0.4		Ţ		1		1	T		1	1	
Notes:	0.4	<u> </u>		<del>}</del>		1,		.1	<u>-1</u>	······································			
	rate for VOCs and rate for non-VOC:				ninute								
						Good			•				
	n of Well: s:									-			
					•			···					
	QUIPMENT	11			Carini	Number		_3656	Mumber of	f Roffles	2 X 1LA		
	r					Number		3656	Hustinet C		250ml poly	<del></del>	
	ature Meter					Number		3656	<del></del> .	' ^			
	y Meter					Number		3656	Field Note	book	7/		
•	lec. Cond. Me					Number		_3656	; içid 14000				
	eterHyd					Number Number		3656	Sample M	ethod	Low Flo		
	eterHy e Probe					Number		25582	·				
	e Probe A					Number		00320					
	AGeo					Number		A0041					
	Geo				Ocudi				Discharge	Water Co	ontainerized	X Yes N	
PURET AT	REPORT OF	1474										د.سا است	

**MARCH 2005** 



# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	1 of	_1_
Date	3/7/05	

Well Nam					Screen Interval 14.3-24.3								
	CTO 86-Site				Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 7.76 / 6904 7.21 / 6906								
Project No	o. <u>1990.08</u>	86E			Static V	/ater Level (fr	om <b>TO</b> C) /	Time 7.20 / 090	<u> 7.2</u>	1/0905	7.21	10906	
	tion <u>Moffett-</u>				Average	Water Level	(from TOC	s フラナ					
Sample D	Date 3/7	05			Reference Point TOC					PID Readings (background)			
	Personnel		ON		Reference Elevation				PID Readin	g (TOC) _	Ø 80 ℃		
		M.RAMOS			Static E	levation			Notes		<u> </u>		
		_			Well De	oth MEAS 2	7.46 F						
Sample I	D 86-S1-096	<del></del>				f Bottom of T							
_	∍ID <u>N/A</u>					Water (w/ T			·· · · · · · · · · · · · · · · · · · ·				
Duplicate	10 102	· · · · · · · · · · · · · · · · · · ·			Берата	S AAGUCI (41)	40/19 III IV	City					
				,	,	<u> </u>	PURGING						
		-											
١. ا				1		Specific		Cumulative	DID (0) (4	D	1		
	Discharge	Dissolved	ļ			Conduct.		Volume of Water	PID/OVA	Reading		i	
	Rate ¹	Oxygen		Eh/ORP		(µmhos/cm		Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1019	.4	.43	7.3	455	23.1	1812	Æ	e			7.23		
1022	14	.32	7.3	440	23,0	223/	Ø	,3			7.26		
1025	.4	.17	7,3	417	22.8	3/25	Ø	.5			7.27		
1028	,4	0.12	23	394	32.9	4320	Ø	.7			7.27		
1031	.4	0.09	7.3		22.8		8	, 9			7.24		
1039	,4	8.07	7.3		22.9	5125	ø	, ,	l		7.27		
1037				709	1001	<del>  3. =</del>	<del></del>	··		<b>i</b>	<del>                                     </del>		
1637	Collect	Sample	╁╾┈	ļ <u> </u>	<del>                                     </del>	<del> </del>	<del>                                     </del>		<u> </u>	-			
ļ	ļ		<del> </del> -	<del> </del>	-	<u> </u>	<del></del>		<del>                                     </del>				
<b>├</b> ──		<del> </del>	₩	<del> </del>	<del> </del>	,		<u> </u>		<del>                                     </del>	<del>                                     </del>		
		ļ	╄	ļ <u>.</u>	-	<u> </u>	<del> </del>			<del> </del>			
	<u> </u>	<u></u>	<u> </u>	<u> </u>				<u> </u>	L			i	
Notes:	te = 0.2 - 0.5 L/mi	nute											
-	n shall be <0.33												
C 4 14 PH	CADAMET	:ne											
	PARAMETI			Ŧ		Т		<del> </del>	<del></del>		Τ	<del></del>	
	SVOCs	1xD.ME	RC.			<u> </u>		<u> </u>	<u> </u>		<u> </u>		
SAMPLI		1		<del></del>		1.		<del></del>	T		T	<del></del>	
	1	.4		<u> </u>		<u> </u>		<u> </u>	<u> </u>		1		
Notes: 1. Sample	rate for VOCs and	alvsis = 0.1 - 0.2	2 L/minu	te									
	rate for non-VOC				minute								
Condition	n of Well: <u>6</u>	excl - N	eph	5 Dawn	<del>.</del> }								
	Dorf		brle	c/s	-					· · · ·		_	
Kemark	s: <u>CANA</u> 1	ec / co	#W.10	3-			<del></del>						
FIELD E	QUIPMENT												
pH Mete	r	<b>HYDROLA</b>	<u>B</u>		Serial	Number_ <u>#</u>	R10797	<del></del>	Number of	FBottles _	2X1LA		
Tempera	ature Meter	HYDROL	4 <u>8</u>		Serial	Number <u>#</u>	R10797			1	X250mLP		
	Turbidity Meter HYDROLAB					Number#	R10797	<del></del>					
	lec. Cond. Me		_		Serial	Number#	R10797						
ORP Meter HYDROLAB							R10797		Field Note	book PC	2-74		
D.O. Meter HYDROLAB							R10797	<del></del>	4				
Interface Probe SQLINST					Serial Number <u>#R10797</u> Serial Number <u>#25582</u>				Sample Method Low Flow				
		NI-RAE							Omitpie interior <u>Cont. Ion</u>				
PID/OV					Serial Number #00320 Serial Number BA0041								
Pump _		EO-PUMP	2001		oesid)	144111DQ1	2/100-F1		Discharge	Water Co	ontainerized	X Yes No	
Filter A	paratus <u> </u>	EO45 M(	KON			<del></del>		<del></del>	Discharge	440101 01	A AGENT TO LEGG	⊞ '~~ LJ '**	



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page _	1	_ of _	_1_	
Date	3/7/0	15		

141-11 51	- W4 5				0	<u></u>		0.5				
Well Nam	·	4 D0/05	·			Interval			Immiscible Phases Present Yes 📈 No			
	CTO 86-Site				Station	Elevation	GND_	100	immiscible i	Phases Ph	esent [	T Acces
•	o. <u>1990.08</u>			<del></del>				Time <u>4.80/894</u> 7	<u> </u>	<u> 1470147</u>	—— <del>7. sc)</del>	0973
	tion <u>Moffett</u>			<del></del>	-	Water Level		9 4 4 80			() 44	<del></del>
	ate <u>3/8</u> /		····					<del></del>	PID Readings (background)			
Sampling	Personnel	D. HARRIS	ON_		Referen	ce Elevation_			PID Readings (background)			
		M.RAMOS_			Static E	levation			Notes	<u></u>		
					Well De	pth MEAS <u>Z</u>	<u> 1.28                                    </u>	RPTD	Feet of Wat	er		
Sample I	D <u>86-S1-103</u>	3		_		f Bottom of T						
Duplicate	ID <u>86-51-</u>	104			Depth to	Water (w/ T	ubing in W	ell) <u>4.80</u>				
							PURGING	<del> </del>				
<u> </u>	• • • •						OROMO					
						Specific						
	Dipaharra   Dipaharra					Conduct.		Cumulative Volume of Water	PID/OVA	Reading	<b> </b>	i
	Discharge Dissolved Eh/OI				Temp.	(μmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
000	.4	2.40	7,3	383	24.4	12-16	4.0	, 1			4.82	
0953	.4	1.62	73	351	23.6	4390	6 Z	. 3			4.84	
0956	.4	0.23	7.3	333	22.1	8710	2,7	.5			4,85	-
0159	<u>, 4</u>	0.18	7.3	294	225	10237	2.4	.7			4.86	
	,4	0.15	13	228	22.7		2.0	7			4.87	
1002	, 4	8.11	73		23.0	10105	2.0				4.88	
1005	017		1.5	211	03.0	10431	2,0	1.1			7.05	
1007	Collect	Suple	A		<del> </del>					<del> </del>	<del> </del>	<del></del>
1015	Collect	Field	$\omega p$	vicate_	<del>                                     </del>	<u> </u>			<del></del> -		<u> </u>	<del></del>
			ļ		<del>                                     </del>	<u> </u>	-			<del></del>		
<b> </b>			<b> </b>	ļ	<b> </b>	<u> </u>	- :-			<del></del>	<del>   </del>	<del></del>
Notes:			L	<u> </u>	<u> </u>	<u>.                                    </u>			<u>.                                    </u>	!	<u> </u>	
	e = 0.2 - 0.5 L/mi	nute										
2. Drawdow	n shall be <0.33	foot										
SAMPLE	PARAMETI	ERS										
S	VOC's	D.MER	C.		•							
SAMPLE	RATE	•									-	
•		1.4		<u> </u>		T		I .				
Notes:				•					······································			
	rate for VOCs and rate for non-VOC				minute							
•	_		Ae iere .	0.2 - 0.0 0	, in the co							
	r of Well: 💪	<u>,ce(</u>									<del> </del>	
Remarks	i:				<del></del>	·						
FIELD E	QUIPMENT	•										
pH Mete		HYDROLA	В		Serial I	Number #	R10797		Number of	Bottles_	4x1LA	
•	ture Meter	HYDROLA			Serial I	Number #	R10797				2x250mLP	
•	Meter	HYDRO					R10797					
•							R10797		<del></del>			
Spec_Elec. Cond. MeterHYDROLAB ORP MeterHYDROLAB							R10797		Field Note	book P	15 78 t	19
D.O. Meter HYDROLAB							R10797				J	
	Probe SO	_					25582		Sample Method Low Flow			
	PID/OVA MINI-RAE						£00320					
Pump_		EO-PUMP					3A0041					
Filter Ap		SEO45 MIC	RON						Discharge	Water Co	ntainerized	X Yes No
							-	· ·				



# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	_1_(	of1
Doto	2/7/0E	

Well Nam					Screen Interval13-18								
Project_	CTO 86-Site	1, R8/05			Station Elevation GND TOC Immiscible Phases Present Yes X No Static Water Level (from TOC) / Time 4,98/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 / 4,88/095 /								
Project No	o. <u>1990,0</u>	36E			Static V	/ater Level (fr	om TOC) /	Time 4,98/09:	<u> 51 4.</u>	88/095	52 4,8	8/0952	
	ation <u>Moffett</u>		<del></del>		Average	Water Level	(from TOC	) <u>4.88</u> '		/		<i>1</i>	
Sample I	Date	05			Reference Point TOC				PID Readings (background)				
Sampling	Personnel	D. HARRIS	QN		Referen	ce Elevation			PID Readin				
		M.RAMOS_			Static Elevation				Notes		-11		
					Well De	و و pth MEAS	W.70 F	RPTD					
Sample I	D 86-S1-10	5				f Bottom of T							
	e ID <u>n/a</u>				•	Water (w/ T			·				
		<del></del>			•								
<u> </u>			1	<u> </u>	<u> </u>		PURGING			-	·····		
						Specific		A					
	Discharge	Dissolved				Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	1	
Time	(L/min)	(mg/L)	рH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1050	, ý	0.86	7.4	<del>  `                                   </del>	26.5	1402	2.5	e )			4.41		
1053	, Li	0.52	7.4		24.8	3270_	1.0	, 3			4.43		
1056	.4	0.31	74	340	24.2	9470	3.8	15			4.94		
1054	14	0.48	2.4	339	23.8	9380	4.4	17			4.46		
1052	.4	0.05	7.4		23.4	9240	4.1	.9			4.97	i	
1055	Collect	Same	<del>                                     </del>	1.2.7	40,40	12-10	``,	7.7			1, 1,		
1007_	CETIVELY	Jury	<del> </del>	1									
<b></b>				<del> </del>	-		-						
		<del></del>	<del> </del>	ļ			<del></del>	· · · · · · · · · · · · · · · · · · ·					
<u> </u>			<del> </del> -									<del></del>	
	<del>-</del>		┼─	├	<del> </del>	<u></u>					<del>                                     </del>		
Notes:	<u>L</u>	<u> </u>			<u> </u>	<u>L</u>	<u> </u>		<u> </u>				
1. Purge rat	te = 0.2 - 0.5 L/mi m shall be <0.33												
SAMPLE	PARAMETE	RS											
	VOC's	D.MER	2C.	1 .		· ·		· · · · · · · · · · · · · · · · · · ·			[		
SAMPLE	•	D.III.C.		<u> </u>	<del></del>	<u> </u>						<b>-</b>	
, 4		14 c	<i>lu</i>			T		[				1	
Notes:	3/3/		-	!		1		I	<u> </u>		<u> </u>		
-	rate for VOCs and rate for non-VOCs	-			ninute								
Condition	n of Well: _ 🤇	ecc)											
	: Shan		$T \le$	light	- 142	3 ०८ वर							
	U	- 0	,	U									
	QUIPMENT	10/00014			O a minut	٠	040707		Number of	Dattles	Ord I A		
pH Mete		HYDROLA					R10797		Manager of	DOUBES_	2x1LA 1x250mLP		
Temperature Meter HYDROLAB							R10797	<del></del>			IXZ3UIILP		
Turbidity Meter <u>HYDROLAB</u>							R10797	<del></del>					
Spec. Elec. Cond. Meter <u>HYDROLAB</u>							R10797		Pt	, <b>1</b> \	30		
ORP Meter HYDROLAB							R10797		Field Notel	000K 175	<del> /</del>	<del></del>	
D.O. Meter <u>HYDROLAB</u>					Serial Number #R10797				· · · · · · · · · · · · · · · · · · ·				
Interface	Interface Probe SOLINST					Serial Number #25582				ethod <u>Lov</u>	v Flow		
PID/OVA MINI-RAE					Serial I	Number <u>#</u>	00320						
Pump _	GE	O-PUMP			Serial Number <u>BA0041</u>					<u></u>			
Filter Ap	paratusG	EQ-,45 MIC	RON						Discharge	Water Co	ntainerized	X Yes No	



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	1 of _	_ 1
Date	3/7/05	

Well Name W1-12R						Interval						
	CTO 86-Site				Station Elevation GND TOC Immiscible Phases Present Yes X No.							
•	o. <u>1990.08</u>				Static V	Static Water Level (from TOC) / Time 2.02/0938 2.02/0939 2.02/0940						10840
	tion <u>Moffett</u>				Average Water Level (from TOC)					· .		
Sample D	ate <u>3/7/</u>	05			Referen	ce PointT	<u>oc</u>	<b>-</b>	PID Readin	gs (backg	round) Op	<u> </u>
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) _	Oppm	
		M.RAMOS_			Static Elevation				Notes			
					Well De	pth MEAS_	F					
Sample II	D 86-S1-10	1				f Bottom of T						
Duplicate	ID N/A				-			ell) 2,02				<u>.</u>
					•							
						•	PURGING					
l i				į		Specific		0				
	Discharge	Dissolved		1		Conduct.		Cumulative Volume of Water	PID/OVA	Reading	1	i
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рHi	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1445	.4	0.61	7.1	355	27.1	1210	40	, l			2,02	
1448	.4	10,33	7.1	341	26.7	/362	44	,3			2.02	
1451	.4	0.15	7-1	325	25.6		39	5	········		2-02	
1454	.4	0-11	7.1	294	25.4		34	- '3			2.02	
	. 4	0.08	17.1	290	25.1		35	.9		<u>.</u>	2-02	
1457		<del></del>	1-1-1	210	ا برجه	1522	. J3	· /				
1500	Collect	Sauple	<del> </del>	<del> </del>		····						
			_					·				
			<u> </u>									
ļ		ļ		ļ								
<u> </u>			<del> </del>	ļ .						<u> </u>	<u> </u>	
Notes;		<u> </u>		<u>.                                    </u>	<u> </u>		<u> </u>		<u></u>	<u> </u>	<u> </u>	
1. Purge rate	e = 0.2 - 0.5 <i>Umi</i> n shall be <0.33						-					
SAMPLE	PARAMETE	ERS										
S	VOCs	D.MEF	€C						[			
SAMPLE				<u> </u>		!	•		ł			
	1 L/uz	.46	14.	1		1			T		T	
Notes:	- cjan	1 7.75		<del></del>		<u> </u>					1	······································
	ate for VOCs and ate for non-VOCs				ninute							
Condition	of Well: $\underline{\mathcal{G}}$		,									
Remarks	: Green	Stubid	Wa	her -	Slig	4+ L12	S ador	· · · · · · · · · · · · · · · · · · ·	<del></del>	_		
FIELD E	QUIPMENT	′			·							
pH Meter		HYDROLAE	3		Serial N	lumber#	R10797		Number of	Bottles	2X1IA	
-	ture Meter						R10797				x250mLP	
-							R10797					· · · · · ·
Turbidity Meter HYDROLAB  Spec. Elec. Cond. Meter HYDROLAB							R10797				•	
ORP Meter HYDROLAB						· · · · · · · · · · · · · · · · · · ·	R10797		Field Notel	ook Pa	5 76+7	7
	D.O. Meter HYDROLAB						R10797		14401		<del></del>	7
Interface Probe SOLINST					Serial Number <u>#R10797</u> Serial Number <u>#25582</u>				Sample Method _Low Flow			
PID/OVA MINI-RAE									Semple Mit		1917	-
Pump_		O-PUMP			Serial Number #00320 Serial Number BA0041				<u> </u>			
			BUN!		1 101 lac	AGENDOI ——D			Discharge	Water Co	ntainerized	X Yes No
Luca Abi	paratus <u>G</u>	EO45 MIC	VOIA					<del></del>	Province	4471G1 OD	AN IOI LECU	ല .യ <b>∟</b> .w



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	_1_	of_	_1_	_
Date	3/7/0	5		

· · · · · · · · · · · · · · · · · · ·	·	<del></del>	_					
Well Name W1-14	Screen Interval4.1-14.1							
ProjectCTO 86-Site 1, R8/05	Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No. <u>1990.086E</u>	Static Water Level (from TOC) / Time 4.60/0930 4.60/0951 460/0932							
Well Location Moffett- Site 1	Average Water Level (from TOC) 4460							
Sample Date <u>3/1/05</u>	Reference Point TOC	PID Readings (background) <u>δργικ</u>	PID Readings (background) DASK					
Sampling Personnel D. HARRISON	Reference Elevation	PID Reading (TOC) Oppur						
M.RAMOS	Static Elevation	Notes						
	Well Depth MEAS 17.71 RPTD	Feet of Water						
Sample ID _86-S1-100	Depth of Bottom of Tubing 9.1							
Duplicate ID <u>N/A</u>	Depth to Water (w/ Tubing in Welt) 4.6	D						
PURGING								
Discharge Dissolved	Specific Cumul Conduct. Volume o	DID COM Baseline						
, , , , , , , , , , , , , , , , , , ,	Temp. (µmhos/cm Turbidity Removed	71 1 1 2 11 1						
Time (L/min) (mg/L) pH (mV)	(°C) at °C) (NTU) (Gaile	9 1	ents					
1327 .4 1.06 7.0 176	16.9 61095 8.6 -1	4.61						
1330 4 0.80 2.1 150	17.0 40981 7.0 3	4,62						
1333 .4 0.52 7.1 144	11.2 60 536 5.2 5	4.42	$\neg$					
1536 .4 0.27 7.1 142	17.1 60289 3.3 .7	4.62						
1339 .4 0.25 7.1 /38	17.2 60376 3.9 19	4.63						
1340 Collant Sample								
			:					
Notes:  1. Purge rate = 0.2 - 0.5 L/minute  2. Drawdown shall be <0.33 foot								
SAMPLE PARAMETERS								
SVOCs D.MERC.	1							
SAMPLE RATE								
146/m -46/m								
Notes:								
<ol> <li>Sample rate for VOCs analysis = 0.1 - 0.2 L/minute</li> <li>Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L</li> </ol>	/minute	·						
Condition of Well: Good								
Remarks:		<u> </u>						
FIELD EQUIPMENT		No. of Contract Over A						
pH Meter HYDROLAB	Serial Number #R10797	Number of Bottles 2X1LA						
Temperature MeterHYDROLAB	Serial Number #R10797	1X250mLP						
Turbidity Meter HYDROLAS	Serial Number #R10797							
Spec. Etec. Cond. Meter HYDROLAB	Serial Number #R10797	Field Notebook Da / 2=42/-						
ORP Meter HYDROLAB	Serial Number #R10797	Field Notebook <u>Pass , 75 + 76</u>						
D.O. Meter HYDROLAB	Serial Number #R10797	Comple Method Law Plans						
Interface Probe SOLINST	Serial Number #25582	Sample Method <u>Low Flow</u>	_					
PID/OVA MINI-RAE	Serial Number #00320							
Pump GEO-PUMP  Filter Apparatus GEO- 45 MICRON	Serial Number BA0041 Discharge Water Containerized X							



# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	t of	_1_
Date	3/7/05	

	Well Name W1-15					Screen Interval 4.4-14.4						
ProjectCTO 86-Site 1, R8/05					Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No	o. <u>1990.08</u>	6E			Static Water Level (from FOC) / Time 7.82/64/8 9.02/64/8 9.82/64/6							
	ation <u>Moffett-</u>			·	Average Water Level (from TOC) 4.82							
Sample [	Date <u>3/1/</u>	05			Referen	ce Point	oc		PID Readings (background) Oppu			
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) 🤇	JAA 11	····
M.RAMOS					Static E	levation		<del></del>	Notes		11	
					Well De	pth MEAS 👔	<u>7.75                                   </u>	RPTD	Feet of Wal	ter		
Sample I	D <u>86-S1-097</u>					f Bottom of T						
Duplicate	e ID <u>collect</u>	ms/msd			Depth to	Water (w/ T	ubing in W	ell) <u>4,87</u>			····	
				-		F	PURGING					
			1	1		Specific	[	Cumulative				
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		·
	Rate ¹	Oxygen	l	EN/ORP		(µmhos/cm		Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1114	.4	0.54	6.8		35,8	14852	100				4.86	
1117	.4	0.38	6.8		24.4	27734	72	,3			4.87	
1170	4	0.16	6.9	136	23.7	29210	41	.5			4.87	
1123	.4	0.70	6.9	44	21.4	30,44	19	` 7			4.87	
1126	.4	0.08			22.3	30544	9	. 9			4.90	
1129	,4	0.07		44	22./	30462	2	1.1		ļ	4.92	
1130	Collect	· Sample	<u> </u>				<u> </u>					
		<u> </u>			<u> </u>	·						
				<u> </u>	ļ							
										<u> </u>		
			<u> </u>		1		<u> </u>	<u>                                      </u>			<u> </u>	
	te = 0.2 - 0.5 L/mi vn shall be <0.33											
	E PARAMETE											
	VOCs	D.MER	20	1		· · · · · · · · · · · · · · · · · · ·		T		· ·		
SAMPLE		Davier				<u> </u>		<u> </u>	L	·	J	
	, U	ा ,व		T		T	•	1				
Notes:	<i>!</i>	1		.l		<u>L</u>		<u> </u>	<u> </u>			<u> </u>
•	rate for VOCs and rate for non-VOCs	•			minute							
	_	ĺ	90 (4.0	4.2 0.72								
	n of Well:			10/						······		
Kemarks	:: Green	/ Turbic	<u>Da</u>	, FC I								
	QUIPMENT		_		B. 7.11		1046707		Mumahar ad	F Dattles	6V41 A	
pH Meter HYDROLAB							R10797	<del></del>	Number of	Domes	3X250mLP	
Temperature Meter HYDROLAB							R10797	- <del></del>			UNZUVIILE	
•	/ Meter	HYDRO					R10797					
,	lec. Cond. Me		<b>ULAB</b>			-	R10797	<del> </del>	Field Note	hook Pa	5.74+7	
ORP Me		/DROLAB					R10797		rieid Note	mor	2 (14 L)	7
D.O. Me		OROLAB					R10797		Compto 14	ethod to	ı, Eloss	
	ProbeSO		·				£25582 £25322	<del></del>	Sample M	eruog <u>F0</u> /	N LIUW	
PID/OVA MINI-RAE					Serial Number #00320			<del></del>				
Pump		EO-PUMP	.m.o		Senai	Number	3A0041	<u></u>	Dieshara	Mater 0-	ntaineézed	X Yes No
Filter Apparatus GEO- 45 MICRON									Discharge	: vvater CC	ntainerized	X Yes No



## TETRATECH PWGRC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	1_ of	_1
Date	3/7/05	

Well Name W1-16					Screen	interval	5.4-15	.4					
Project	CTO 86-Site	1, R8/05			Station Elevation GND TOC immiscible Phases Present, Yes X No								
	o. 1990.08				Static Water Level (from TOC) / Time 7.10 / 0958 7.10 / 0959 7.10 / 1000								
•	tion Moffett-		<del>-</del>			Water Level					<del></del>		
	Date 3/8				_		-		PID Readings (background) C 144				
	Personnel		ON		Reference Point TOC Reference Elevation				PID Reading (TOC) Oppu				
Sampling	· · · · · · · · · · · · · · · · · · ·		OIN						Mater	9(100)_	Oppos		
		M.RAMOS_			Static	levauon	031 -						
										er		<del></del>	
Sample ID <u>86-S1-107</u>					Depth of Bottom of Tubing 10.4								
Duplicate	ID N/A	· · · · · -			Depth to Water (w/ Tubing in Well)								
							PURGING				· · · · · ·		
											İ		
						Specific		Cumulative			[	Į.	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	. !	i	
	Rate ¹	Oxygen		ENORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(UTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1410	.4	0.29	6,9	120	33.8	3351	4.7	. [			7.13		
1613	.4	0.21	6.9	107	33.2	4920	5.6	13			7.15		
1614	<u>.</u>	8.11	6.7	99	3/4	8514	4.9	.5			7.18		
1419	, 4	0.08	7.0	97	30,4		5.1	.7			7.22		
1622		0.06	7.0	96	38.5	9477	4.0	.9			7.24	-	
1425	Collect	Sample		· <del>-</del>	10.0	<del></del>	,. <u> </u>	······································			<del> / </del>	-	
140	enitec.	- 4 - 427 C	1		<del> </del>	<u> </u>					<u> </u>		
			<del>                                     </del>	<del> </del>	╄	<del> </del>	<u> </u>		-		<del>                                     </del>		
ļ	<u>-</u>		├-	<del> </del>	<u> </u>					<del>-</del>	<del> </del>		
			├─	<del>                                     </del>	<del>├</del>			•	-		<del>i i</del>		
			-			<del> </del>					1	<del></del> [	
Notes:		<u> </u>		<u> </u>	<u>.</u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		·	
1. Purge rat	e = 0.2 - 0.5 L/mi m shall be <0.33												
<del></del>	PARAMETE	*		1		1		<del></del>	T			-1	
	VOC's	D.MEF	(C.	<u> </u>		<u> </u>		<u>i</u> .	<u> </u>		<u> </u>	!	
SAMPLE						<del> </del>		1			T	<del></del>	
	4 ym	.4 40	4	<u> </u>		<u></u>			<u> </u>				
	ate for VOCs and ate for non-VOCs	-			minute								
Condition	of Welt:G	soci											
	clear	slight	N 25	odov						•••			
			1117					<del></del>					
	QUIPMENT	LD/DDALAI	n		Carial	Humbor #	D10707		Number of	Dattice	2X1IA		
pH Meter		HYDROLAI					R10797		Number of	DOILLES			
,	ture Meter	_HYDROLA					R10797	<del></del>		<del></del> .: '::	1X250mLP		
Turbidity Meter HYDROLAB							R10797						
•	ec, Cond. Me	_	OLAB				R10797		Field No.	(S-	C ()A.E	<del></del>	
ORP Meter <u>HYDROLAB</u>							R10797	<del></del>	Field Note	book_ <del> }</del>	s. 80t	81	
D.O. Me		DROLAB					R10797				=1		
Interface	Probe SO						<u>25582</u>	<del></del>	Sample M	ethod <u>Lo</u> v	w Flow	<del></del>	
PID/OVA MINI-RAE					Serial i	Number#	00320	· · · · · · · · · · · · · · · · · · ·					
Pump_	G	O-PUMP			Serial	Number <u>E</u>	3A0041	<del></del>					
Filter Apparatus <u>GEO45 MICRON</u>									Discharge	Water Co	ntainerized	X Yes   No	



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	101	
Date	3/7/05	

Well Name W1-19					Screen Interval 14-19							
Project <u>CTO 86-Site 1, R8/05</u>					Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No	o. <u>1990.0</u> 8	86E			Static Water Level (from TOC) / Time 4.18/0922 4.18/0923 4.18/0924							
	tion <u>Moffett</u>				Average Water Level (from TOC) 4,18							
Sample D	Date 3/1/	05			Referen	ice Point <u>T</u>	<u>oc</u>		PID Readin	gs (backg	round) OPP	
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) _	opowii	
		M.RAMOS				levation			Notes		• •	
							21.20 F	RPTD				
Sample I	D 86-S1-09	3				f Bottom of T						
1 -	e ID <u>N/A</u>			<del></del> [				(ell) 4.18				
								) <u></u>				
-						<u> </u>	PURGING		<del></del>		E 1	
											]	
				}		Specific		Cumulative	DID (6) //			
	Discharge	Dissolved			1_	Conduct.		Volume of Water	PID/OVA	Reading	ł <u></u> . 1	
	Rate ¹	Oxygen	l	Eh/ORP	1 .	! "		Removed/Purged	l		Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	aji °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1230	4	0.70	7,0	317	30.2	7-5436					4.20	
1233	.4	0.62	7.0	251	29,8	11520	1.7	13			4,22	
1234	.4	0.17	7.0	245	29.0	12260	0.4	.5			4.24	
1239	. 4	0.14	7.0	236	28.1	13450	0.6	18			4.27	·
1240	Collect	Sample						<u> </u>				
					1							
		-	$\vdash$		1						-	
		<del>                                     </del>	<del> </del>	-	1 -	· · · · · ·				<del> </del>	-	· · ·
-	<del></del>	<del> </del>		<del> </del>	<del>                                     </del>			<del> </del>	<del> </del>		1	
Notes:	l				<u> </u>	<u> </u>	<u> </u>	<u> </u>	·	1		
_	te = 0.2 - 0.5 t/m											
2. Drawdow	m shall be <0.33	1001										
SAMPLE	PARAMET	ERS		,				·	_			
S	VOCs	D.MER	IC.					1	<u> </u>		<u> </u>	
SAMPLE	RATE											
.4	1 Um	,42	14									<u> </u>
Notes:											•	
	rate for VOCs and rate for non-VOCs	-			minute							
-		4 .	<b>3</b> • • • • •									
Condition of Well: Good, Remarks: Colorless/Odorless							<del></del>					
Remarks	: <u>Colorte</u>	so/vacr	、セラン						<u>.</u>			
FIELD E	QUIPMENT											
pH Meter		HYDROLA	В		Serial I	Number #	R10797		Number of	Bottles	2X1LA	
•	Temperature Meter HYDROLAB						R10797				1x250mLP	
-	Meter			~	·		R10797					
_			_				R10797					· · · · · · · · · · · · · · · · · · ·
-	Spec. Elec. Cond. Meter HYDROLAB							<u>.                                    </u>	Field Note	hook Na	. 75	
ORP Me		YDROLAB					R10797		rieki Note	17		
D.O. Me		/DROLAB_					R10797	<del></del>	Carrela 14		Elour	
Interface Probe <u>SOLINST</u>							25582		Sample M	eruog <u>röy</u>	W LIOM	
PID/OVA MINI-RAE							00320					
Pump_		EO-PUMP			Serial	Number <u> </u>	A0041			1461 5	and a time a site of the	UV. Do
Fitter Apparatus <u>GEO45 MICRON</u>									Discharge	water Co	ntainerized	X Yes No



# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page1 of _	1
Date <u>3/7/05</u>	_

Well Nam	e <u>W1-22</u>				Screen	Interval	N/A					
Project_	CTO 86-Site	1, R8/05			Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No	o. <u>1990.08</u>	36E			Static Water Level (from TOC) / Time 2.95/0942 2.95/0943 295/0944							
	tion <u>Moffett</u>				Average Water Level (from TOC) 2.95							
Sample I	)ate 3 8	03				ce PointT			PID Readings (background) Osa w			
Sampling Personnel D. HARRISON						ce Elevation			PID Readin			
	-	M.RAMOS			Static E	levation			Notes			
		_			Weil De	oth MEAS &	<i>-64</i> ₽	RPTD	Feet of Wat	ter		
Sample I	D_86-S1-102	2				f Bottom of T						
-	ID N/A							ell) 2,45				
<u> </u>						1	PURGING					
					٠.							
				1		Specific		Cumulative	PID/OVA	Dooding		
	Discharge	Dissolved			Tamm	Conduct.	<b>-</b>	Volume of Water	FIDIOVA	Reauing	Depth to	
<b>-</b> :	Rate ¹	Oxygen	,	Eh/ORP		(µmhos/cm	Turbidity	Removed/Purged	Lacation	Value	Water ² (ft)	Commonto
Time	(L/min)	(mg/L)	pH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	value	2.99	Comments
0830	<u>4</u>	Ø	6.3	191	14.6	18.2	450	o /	-	-		
0853	,4	ר_	6.4	175	14.9	364	327	. 3		<u> </u>	3.04	
0836	,4	Ø	6.4	160	15.3	2192	150	, 5			3,07	
0839	.4	Ø	6.5	150	15.5	2108	95	.7			3.08	
0842	.4	_Ø	6.7	148	15,7		87	9			3.09	
0845	, (	Ø	4.9	141	15.9	7246	82.8	1.1			3.10	
0848	,4	0.09	6.9	138	16.4	9650	99	1.3			3.11	
0850	Collect	Sample										
					<u> </u>							
		:					-					· · · · · · · · · · · · · · · · · · ·
			<b>!</b>					<del></del>		,		
Notes:	·	<u> </u>	·	•		· · · · · · · · · · · · · · · · · · ·	l			I''		<u> </u>
	e = 0.2 - 0.5 L/mi n shail be <0.33											
	PARAMETE		80					<del> </del>	I		Т	
	SVOC's	1xD.ME	RC.	<u> </u>				<u> </u>	<u> </u>			<u> </u>
SAMPLE		1 .17	7.	т		<del>1</del>		ł	1		1	
Notes:	y Han	, નૃંદ	<u>  ^ </u>	<u> </u>				<u> </u>	<u> </u>		<u> </u>	
1. Sample i	ate for VOCs and											
2. Sample (	ate for non-VOCs	s analysis = pur	ge rate =	= 0.2 - 0.5 <i>Ut</i>	ninute							
Condition	i of Well: 🗁	$\infty$ d										
Remarks	Brown	whitely	15/10	ht N2	<u>S odor</u>	-						
			•									
	QUIPMENT	UVDDAL N			Cariol	lumber #	D10707		Number of	Rattlee	2x1LA	
pH Mete		HYDROLAI					R10797		Number of	DOUGS		
Temperature Meter <u>HYDROLAB</u>							R10797	<del></del>			1x250mLP	····
Turbidity		HYDRO					R10797	<del></del>				
	ec. Cond. Me		OLAB				R10797		*** * * * * * * *		70	
ORP Meter <u>HYDROLAB</u>							R10797	<del></del>	Field Note	000K <u>176</u> 5	<u> 18</u>	
D.O. Me	ter <u>HY</u>	'DROLAB			Serial I	Number#	R10797					
Interface	Probe <u>SO</u>	LINST			Serial I	Number <u>#</u>	<u>25582</u>		Sample Method _Low Flow			
PID/OVA MINI-RAE					Serial i	Number#	00320				<u>.</u>	
<u> </u>	GE	O-PUMP			Serial I	Number <u>E</u>	A0041					<del></del>
Filter Apparatus <u>GEO- 45 MICRON</u>									Discharge	Water Co	ntainerized	X Yes No



# LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page_	_1_	of_	_1_	
Date	3/7/08	5		

Well Name W1-23	Screen Intervaln/a							
Project CTO 86-Site 1, R8/05	Station Elevation GND	TOC Immiscible Phases PresentYes X No						
Project No. <u>1990.086E</u>	Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 5.60 / 0534 5.60 / 0535 5.60 / 0536 Average Water Level (from TOC) 5.66							
Well Location Moffett- Site 1	Average Water Level (from TOC) 5	.66						
Sample Date	Reference Point <u>TOC</u>	PID Readings (background)						
Sampling PersonnelD. HARRISON	Reference Elevation							
M.RAMOS	Static Elevation	Notes						
	Well Depth MEAS 5.95 RPT	O 6.0 Feet of Water						
Sample ID <u>86-S1-099</u>	Depth of Bottom of Tubing							
Duplicate ID N/A	Depth to Water (w/ Tubing in Well)	NS/55 5,60						
	PURGING	<u>\$6</u>						
<del> </del>	PURGING							
Discharge Dissolved	Conduct. Vo	Cumulative lume of Water PID/OVA Reading						
Rate ¹ Oxygen Eh/OR		moved/Purged Depth to						
Time (L/min) (mg/L) pH (mV)	(°C) at °C) (NTU)	(Gallons) Location Value Water ² (ft) Comments						
1415 .3Lm 0.63 7.1 171	28.2 16.4 1000+	.1 5.65						
1418 ,3 0.21 7.1 151	26.9 19.5 824	.2 5.76						
1421 Trench Raw dry		. 25 5.84						
	1							
Notes:  1. Purge rate = 0.2 - 0.5 L/minute  2. Drawdown shall be <0.33 foot								
SAMPLE PARAMETERS								
SvOCs D.MERC.								
SAMPLE RATE								
SAME EL IONE								
Notes:  1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute  2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute  Condition of Well: Good  Remarks: Brown twint water - Sligt that odor								
FIELD EQUIPMENT								
pH Meter HYDROLAB	Serial Number #R10797	Number of Bottles 2X1LA						
Temperature Meter HYDROLAB	Serial Number #R10797	1X250mLP						
Turbidity Meter HYDROLAB	Serial Number #R10797							
Spec. Elec. Cond. Meter HYDROLAB	Serial Number #R10797							
ORP Meter HYDROLAB	Serial Number #R10797	Field Notebook Ps_ 76						
D.O. Meter HYDROLAB	Serial Number #R10797							
Interface Probe SOLINST	Serial Number #25582	Sample Method Low Flow						
PID/OVA MINI-RAE	Serial Number #00320							
Pump GEO-PUMP	Serial Number BA0041							
Filter Apparatus <u>GEO45 MICRON</u>		Discharge Water Containerized X Yes No						



### LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page	1_	_of_	_1_	-
Date	3/7/0	5		

Well Nam	ne <u>W1-24</u>		·		Screen	Interval	6-16			•		
Project_	CTO 86-Site	1, R8/05			Station	Elevation	GND_	тос	Immiscible	Phaşes Pr	esent	Yes ☑ No
Project No	o. <u>1990,0</u> 8	36E			Static V	Vater Level (fr	om TOC)/	Time 6.37 095	4 6.	38/095	5 6.3	1/095%
Well Loca	tion <u>Moffett</u>	Site 1				Water Level				<i>'</i>		
Sample [	Date 3/9	105			Referen	ice Point <u>T</u>	oc		PID Readin			
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation	****		PID Readin	g (TOC) _	<u>ಲ</u>	· · · · · · · · · · · · · · · · · · ·
		M.RAMOS				tevation			Notes			
					Well De	epth MEAS <u>2</u>	<i>0.78_</i> F	RPTD				
Sample 1	D_86-S1-106	<u> </u>		_	Depth o	f Bottom of T	ubing <u>11</u>					
Duplicate	e ID <u>N/A</u>				Depth to	o Water (w/ T	ubing in W	eli) <u>(p.38</u>			·	
· · · ·					· -		PURGING	<u></u>				
-								·				
			ŀ			Specific		Cumulative				1
1	Discharge	Dissolved			1	Conduct.		Volume of Water	PID/OVA	Reading		•
	Rate ^t	Oxygen		Eh/ORP		1 "	Turbidity	Removed/Purged			Depth to	
Tìme	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location_	Value	Water ² (ft)	Comments
1500	4	0,30	7.0	131	26.9	2460	4.5	.1			6.40	
1503	.4	0.76	6.8	119	26.7	5270	3,2	43			4.42	
1506	.4	2.22	6.8	1/0	25.1	7553	2.9	15			6.43	
150	ر نا	1,30	6.8	116	25.0	8760	514	17			6.45	
1512	.4	0.32	68	117	24.1	10238	4.6	.9		<u> </u>	6.4%	
1515	.4	0.30			24.2	10377	5.0	1-1			6.49	<u> </u>
1518	.4	0.28	6.8	12/	24.1	10480	2.5	1.3			6.50	
1520	Glast	Sauste				<u> </u>				<u> </u>		
		/			<u> </u>	ļ						
[				}	<u> </u>							
					<u> </u>	,	<u> </u>		<u> </u>			
	te = 0.2 - 0.5 Umi m shall be <0.33											
	PARAMET											
	VOC's	D.MEF		<del> </del>		<u> </u>		r	1		T	
SAMPLE		D.MET	<del>(U.</del>	<u></u>		L		l	<u>.                                    </u>		<u> </u>	
	4 4m	.4 4	Ins	г –		<del></del>		[	Ţ		1	
Notes:	744	.9 -	1 174	<u> </u>	<del></del>	J		<u> </u>	i		·	
	rate for VOCs and									•	•	
2 Sample	rate for non-VOCs	A 16	ge rate :	= 0.2 - 0.5 U	minute							
		<u> </u>										
Remarks	: <u>Gveen</u>	townich!	1/5	<u>Slight</u>	<u> 1978</u>	eder_					·	
<u>FIELD E</u>	QUIPMENT											
pH Mete	r	<u>HYDROLA</u>	<u>B</u>		Serial I	Number <u>#</u>	R10797	<del> </del>	Number of	Bottles _	_2x1LA	
Tempera	iture Meter	HYDROL/	7 <u>B</u>		Serial I		<u>R10797</u>	···			2x250mLP	<del></del>
•	Meter						R10797					<u> </u>
Spec. El	lec. Cond. Me		OLAB				R10797	<del> </del>		<del> </del>		
ORP Me	eter <u>H</u>	YDROLAB_					R10797		Field Note	book	<del></del>	
D.O. Me		/DROLAB					R10797	<del></del>				
Interface	Probe <u>SO</u>	LINST					25582		Sample M	ethod <u>Lo</u>	w Flow	
PID/OV	A <u>Mi</u>	NI-RAE	-,		Serial	Number#	00320					
Pump	<u>G</u>	EO-PUMP_			Serial	Number	3A0041					
Eilfer An	naratus <i>C</i>	FO- 45 MIC	RON						Discharge	Water Co	ontainerized	X Yes No

### **APPENDIX B**

# ANALYTICAL SUMMARY TABLES AND STATISTICAL EVALUATION TABLES

### LIST OF APPENDIX B TABLES

### **Semiannual Sampling**

Table B-1	April 2005 Validated Analytical Results, Site 1 Landfill
Table B-2	October 2005 Validated Analytical Results, Site 1 Landfill

### **Supplemental Sampling**

- Table B-3 January 2005 Analytical Results for Dissolved Mercury and Semivolatile Organic Compounds, Site 1
- Table B-4 March 2005 Analytical Results for Dissolved Mercury and Semivolatile Organic Compounds, Site 1

#### **Statistical Evaluation**

- Table B-5 Statistical Evaluation Summary Dissolved Metals
- Table B-6
   Statistical Evaluation Summary Pesticides

**SEMIANNUAL SAMPLING** 

TABLE B-1 Page 1 of 1

#### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT APRIL 2005 VALIDATED ANALYTICAL RESULTS, SITE 1 LANDFILL FORMER NAS MOFFETT FIELD

	86-S1-108	86-S1-109	86-S1-110	86-S1-112	86-S1-113	86-S1-114	86-S1-115	86-S1-116	86-S1-117	86-S1-118	86-S1-119	86-S1-120
MP	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	4/11/05	4/11/05	4/11/05	4/11/05	4/12/05	4/12/05	4/12/05	4/12/05	4/12/05	4/12/05	4/13/05	4/13/05
Dissolved Metals ( µg/L)	EPA Method	200.8										
Arsenic	0.834 J	4.61 J	2.2 J	4.54 J	1.55 J	1.63 J	2.76 J	1.05 J	2.09 J	1.77 J	6.35 J	5.43 J
Barium	73.3	145 J	83.8	184	74.3	73.4 J	208	507	130	130 J	218	244
Cobalt	13.5	1.91 J	9.93	6.01	4.67	6.37	4.33	1.28	2.74	2.4 J	6.29	4.99
Copper	0.602 J	0.205 J	0.814 J	0.225 J	0.528 J	0.573 J	0.831 J	0.142 J	0.329 J	0.434 J	0.243 J	0.214 J
VOCs (µg/L)	EPA Method	8260B										
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pesticides ( µg/L)	EPA Method	8081A										
beta-BHC	0.047 U	0.048 U	0.047 U	0.047 U	0.053 U	0.047 U	0.047 U	0.047 U	0.048 U	0.047 U	0.048 U	0.048 U
Heptachlor	0.047 U	0.048 U	0.047 U	0.047 U	0.053 U	0.047 U	0.047 U	1.2	0.048 U	0.047 U	0.048 U	0.048 U
SVOCs (µg/L)	EPA Method	8270C										
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.7 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.6 U
2-Methylphenol	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.7 U	9.4 U	9.5 U	9.5 U	9.4 U	9.4 U	9.6 U

#### Notes:

Shading indicates concentration above the calculated concentration limit.

^a – Well W1-22 is a collection trench well and not representative of groundwater at Site 1

#### Abbreviations and Acronyms:

 $\mu g/L - micrograms \ per \ liter$ 

BHC – benzene hexachloride

DUP – duplicate sample

EPA - United States Environmental Protection Agency

J - estimated value

MP - monitoring parameter

NAS - Naval Air Station

SVOC - semivolatile organic compound

U - analyte not detected above project reporting limit

VOC - volatile organic compound

TABLE B-2 Page 1 of 1

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT OCTOBER 2005 VALIDATED ANALYTICAL RESULTS, SITE 1 LANDFILL FORMER NAS MOFFETT FIELD

	86-S1-124	86-S1-125	86-S1-126	86-S1-128	86-S1-129	86-S1-130	86-S1-131	86-S1-132	86-S1-133	86-S1-134	86-S1-135	86-S1-136
MP	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	10/4/05	10/4/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05	10/6/05
Dissolved Metals ( μg/L)	EPA Method	200.8										
Arsenic	1.61	4.47	2.97	5.28	2.53	1.93	0.95	1.95 J	3.86	4.33 J	7.25	7.72
Barium	107	176	99.9	159	72	1260	576	556 J	150	150 J	398	458
Cobalt	7.69 J	3.32 J	9.69 J	8.34 J	5.25 J	0.36 J	1.73 J	2.99 J	2.27 J	2.28 J	2.87 J	7.28 J
Copper	2.64 J	0.1 J	0.494 J	0.075 J	0.205 J	0.135 J	0.031 J	0.06 J	0.099 J	0.093 J	0.14 J	0.125 J
VOCs (µg/L)	EPA Method	8260B										
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Pesticides ( µg/L)	EPA Method	8081A										
beta-BHC	0.048 U	0.048 U	0.047 U	0.047 U	0.049 U	0.25	0.05 U	0.048 U	0.048 U	0.047 U	0.05 U	0.049 U
Heptachlor	0.048 U	0.048 U	0.047 U	0.047 U	0.02 J	0.049 U	0.05 U	0.048 U	0.048 U	0.047 U	0.05 U	0.049 U
SVOCs ( µg/L)	EPA Method	8270C										
2,4,6-Trichlorophenol	9.4 U	9.4 U	10 U	9.5 U	9.4 U	10 U	9.4 U	10 U	9.4 U	9.7 U	9.4 U	9.5 U
2-Methylphenol	9.4 U	9.4 U	10 U	9.5 U	9.4 U	10 U	9.4 U	10 U	9.4 U	9.7 U	9.4 U	9.5 U

#### Notes:

Shading indicates concentration above the calculated concentration limit.

 $^{\rm a}$  – Well W1-22 is a collection trench well and not representative of groundwater at Site 1

#### Abbreviations and Acronyms:

μg/L – micrograms per liter

BHC – benzene hexachloride

DUP – duplicate sample

EPA - United States Environmental Protection Agency

J - estimated value

MP - monitoring parameter

NAS - Naval Air Station

SVOC - semivolatile organic compound

U - analyte not detected above project reporting limit

VOC - volatile organic compound

SUPPLEMENTAL SAMPLING

TABLE B-3

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT JANUARY 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

	86-S1-084	86-S1-085	86-S1-086	86-S1-088	86-S1-089	86-S1-090 W	86-S1-091	86-S1-092	86-S1-093	86-S1-094	86-S1-095
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-24	W1-16
COC	1/31/05	2/1/05	2/1/05	2/1/05	2/1/05	2/1/05	2/2/05	2/2/05	2/2/05	2/2/05	2/2/05
Dissolved Metals ( µg/L)	EPA Method		2/1/05	2/1/05	2/1/03	2/1/03	2/2/03	2/2/03	2/2/03	2/2/03	2/2/05
Mercury	8 U	8 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
SVOCs (µg/L)	EPA Method		0.2 0	0.2 0	0.2 0	0.2 0	0.2 0	0.2 0	0.2 0	0.2 0	0.2 0
· ·	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	0.411	9.4 U	9.4 U	0.411	9.4 U
1,1'-Biphenyl	9.4 U	9.4 U 9.4 U	9.4 U 9.4 U				9.4 U		9.4 U	9.4 U	
2,2'-Oxybis(1-chloropropane)	9.4 U			9.4 U	9.4 U	9.4 U	9.4 U	9.4 U		9.4 U	9.4 U
2,4,5-Trichlorophenol		9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U 9.4 U	9.4 U 9.4 U	9.4 U 9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U 9.4 U	9.4 U	9.4 U 9.4 U
2,4-Dichlorophenol	9.4 U				9.4 U	9.4 U	9.4 U	9.4 U		9.4 U	
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

TABLE B-3

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT JANUARY 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

	86-S1-084	86-S1-085	86-S1-086	86-S1-088	86-S1-089	86-S1-090 W	86-S1-091	86-S1-092	86-S1-093	86-S1-094	86-S1-095
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-24	W1-16
	1/31/05	2/1/05	2/1/05	2/1/05	2/1/05	2/1/05	2/2/05	2/2/05	2/2/05	2/2/05	2/2/05
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U					
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U					
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U					
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U					
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U					
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

#### **TABLE B-3**

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT JANUARY 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

#### Notes:

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

#### Abbreviations and Acronyms:

μg/L – micrograms per liter

COC - constituent of concern

DUP – duplicate sample

EPA - United States Environmental Protection Agency

NAS - Naval Air Station

SVOC - semivolatile organic compound

U - analyte not detected above project reporting limit

TABLE B-4

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT MARCH 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

	86-S1-096	86-S1-097	86-S1-098	86-S1-100	86-S1-101	86-S1-102	86-S1-103	86-S1-104	86-S1-105	86-S1-106	86-S1-107
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
	3/7/05	3/7/05	3/7/05	3/7/05	3/7/05	3/8/05	3/8/05	3/8/05	3/8/05	3/8/05	3/8/05
Dissolved Metals ( μg/L)	EPA Method	7470A				T		T	T	T	
Mercury	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
SVOCs (µg/L)	EPA Method 8	8270C				1			1	1	
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

TABLE B-4

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT MARCH 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

	86-S1-096	86-S1-097	86-S1-098	86-S1-100	86-S1-101	86-S1-102	86-S1-103	86-S1-104	86-S1-105	86-S1-106	86-S1-107
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
	3/7/05	3/7/05	3/7/05	3/7/05	3/7/05	3/8/05	3/8/05	3/8/05	3/8/05	3/8/05	3/8/05
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 UJ	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U					
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U					
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U					
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U					
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U					
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.7 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

#### TABLE B-4

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT MARCH 2005 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

#### Notes:

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

#### Abbreviations and Acronyms:

 $\mu g/L - micrograms$  per liter

COC - constituent of concern

DUP - duplicate sample

EPA - United States Environmental Protection Agency

NAS - Naval Air Station

SVOC – semivolatile organic compound

U - analyte not detected above project reporting limit

UJ - analyte not detected above the estimated reporting limit

STATISTICAL EVALUATION

**TABLE B-5** Page 1 of 2

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT STATISTICAL EVALUATION SUMMARY - DISSOLVED METALS APRIL 2005 MONITORING SUMMARY FORMER NAS MOFFETT FIELD

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
04/12/05	REG	W1-5	Upgrad.	Barium	507	40	N/A	N/A	No	Location is a background well
04/12/05	REG	W1-8	Upgrad.	Barium	130	40	N/A	N/A	No	Location is a background well
04/12/05	FD	W1-8	Upgrad.	Barium	130 J	40	N/A	N/A	No	Location is a background well
04/12/05	REG	W1-12R	Upgrad.	Barium	74.3	40	N/A	N/A	No	Location is a background well
04/12/05	FD	W1-12R	Upgrad.	Barium	73.4 J	40	N/A	N/A	No	Location is a background well
04/11/05	REG	W1-14	Downgrd.	Barium	184	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
04/11/05	REG	W1-15	Downgrd.	Barium	145 J	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
04/13/05	REG	W1-16	Downgrd.	Barium	244	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
04/11/05	REG	W1-19	Downgrd.	Barium	83.8	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
04/11/05	REG	W1-1R	Downgrd.	Barium	73.3	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
04/13/05	REG	W1-24	Downgrd.	Barium	218	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background

TABLE B-5Page 2 of 2

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT STATISTICAL EVALUATION SUMMARY - DISSOLVED METALS OCTOBER 2005 MONITORING SUMMARY FORMER NAS MOFFETT FIELD

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
10/06/05	REG	W1-5	Upgrad.	Barium	576	40	N/A	N/A	No	Location is a background well
10/06/05	FD	W1-5	Upgrad.	Barium	556 J	40	N/A	N/A	No	Location is a background well
10/06/05	REG	W1-8	Upgrad.	Barium	150	40	N/A	N/A	No	Location is a background well
10/06/05	FD	W1-8	Upgrad.	Barium	150 J	40	N/A	N/A	No	Location is a background well
10/06/05	REG	W1-12R	Upgrad.	Barium	72	40	N/A	N/A	No	Location is a background well
10/06/05	REG	W1-14	Downgrd.	Barium	159	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
10/04/05	REG	W1-15	Downgrd.	Barium	176	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
10/06/05	REG	W1-16	Downgrd.	Barium	458	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
10/06/05	REG	W1-19	Downgrd.	Barium	99.9	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
10/04/05	REG	W1-1R	Downgrd.	Barium	107	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
10/06/05	REG	W1-24	Downgrd.	Barium	398	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background

#### Abbreviations and Acronyms:

μg/L - micrograms per liter CCL - calculated concentration limit Conc. - concentration

Downgrd. - downgradient

Exceed. - exceedance FD - field duplicate J - estimated value N/A - not applicable NAS - Naval Air Station Upgrad. - upgradient REG - regular sample **TABLE B-6** Page 1 of 2

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT STATISTICAL EVALUATION SUMMARY - PESTICIDES APRIL 2005 MONITORING SUMMARY FORMER NAS MOFFETT FIELD

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
4/12/2005	REG	W1-5	Upgrad.	Heptachlor	1.2	0.36		N/A		Location is a background well

TABLE B-6Page 2 of 2

# DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT STATISTICAL EVALUATION SUMMARY - PESTICIDES OCTOBER 2005 MONITORING SUMMARY FORMER NAS MOFFETT FIELD

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
				No exceedances reported						

#### Abbreviations and Acronyms:

 $\mu g/L$  - micrograms per liter

CCL - calculated concentration limit

Conc. - concentration

Upgrad. - upgradient

Exceed. - exceedance

N/A - not applicable

NAS - Naval Air Station

REG - regular sample

# APPENDIX C ANALYTICAL DATA VALIDATION PACKAGES

(Provided on CD only)

0016653 - IN

TETRA TECH
1230 Colombia Street, Suite 500
Sen Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

NUMBER -075

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1835 W. 205th Street Torrance, CA 90501

> Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 03-03-2005 EMAX Batch No.: 058011

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 02/02/05. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
	~~~~~~			
86-51-084	B011-01	01/31/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-\$1-085	8011-02	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-S1-085MS	B011-02M	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-S1-085MSD	B011-02s	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director 13235A

CASE NARRATIVE

CLIENT: TETRA TECH FW, INC.

PROJECT: MFA, SITE 1, CTO 86

SDG: 05B011

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Two (2) water samples were received on 02/02/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample B011-02 was spiked. All recoveries were within QC limit except:

Sample	Compound	%Rec.	QC Limit
B0111-02S	2-Chlorophenol	38	41-125

But recovery in MS met QC criteria. RPD was 1% higher than QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 058011 Sample: ID: 86-S1-084 Lab Samp ID: 8011-01 Lab File ID: RBH162 Ext Btch ID: SVB006W Calib. Ref.: RBH022	Dilut Matri % Moi Instr	Collected: Received: Extracted: Analyzed: Analyzed: It is in the second	01/31/05 02/02/05 02/07/05 17:00 02/14/05 94 WATER NA T-041
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,-DIMETHYLPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROTOLUEME 2.6-DIMITROTOLUEME 2.6-DIMITROTOLUEME 2.CHLOROPHENOL 2.METHYLPHENOL 2-METHYLPHENOL 2-MITROPHENOL 3.3'-DICHLOROBENZIDINE 3-NITROANILINE 4-NITROPHENOL 3.3'-DICHLOROBENZIDINE 3-NITROANILINE 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(C,HLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-ETHYLHEXYL)PHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIMETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPH	RESULTS) RESULTS RE	RL) -444449999 1999 1999 1999 1999 1999 199	4.7

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05B011 Sample ID: 86-S1-085 Lab Samp ID: B011-02 Lab File ID: RBH163 Ext Btch ID: SVB006W Calib. Ref.: RBH022	Date Date Date Date Dilut Matri % Moi Instr	Collected: Received: Extracted: Analyzed: ion Factor: x : sture :: ument ID :	02/01/05 02/02/05 02/07/05 17:00 02/14/05 20:10 .94 WATER NA T-041
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-METHYLPHENOL 2-METHYLPHENOL 2-MITROANILINE 2-NITROANILINE 2-NITROANILINE 3-NITROANILINE 4-6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL 4-NITROPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(G)FLUORANTHENE BENZO(G)FLUORANTHENE BENZO(G)FLUORANTHENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROET		9999 999 9999 9999999999999999999999 9999	777774677777667777777777777777777777777
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2,4,6-TRIBROMOPHENGL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	70 63 54 60 63 83	25-134 43-125 25-125 32-125 25-125 42-126	
RL: Reporting Limit (1): Cannot be separated from 3-Methylp	henol		

(1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

CASE NARRATIVE

CLIENT: TETRA TECH FW, INC.

PROJECT: MFA, SITE 1, CTO 86

SDG: 05B011

METHOD 7470A
DISSOLVED MERCURY BY COLD VAPOR

Two (2) water samples were received on 02/02/05 for Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample B011-02 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample B011-02 was spiked. Recoveries were out of QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Samples were reported from DF 40 due to matrix interference.

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 058011

Matrix : WATER Instrument ID : T1047

	EMAX	RESULTS			굲	MDL	Analysis	Extraction				Collection	Received
SAMPLE 1D	SAMPLE 10	(1/8/L)		DLF MOIST	(1/6n)	(1/6n)		DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
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86-51-08501	8011-027	2		NA NA	0%	23	02/23/0518:07	02/23/0513:00 M478020049	M478020049	M478020044	HGB020W	02/01/05	02/02/05
86-S1-085MS	B011-02M	6,521		Z.	c O	*	02/23/0518:09	02/23/0518:09 02/23/0513:00 M47B020050	M47B020050	M47B020044	HGB020W	02/01/05	02/02/05
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86-51-084	8011-01	2		AN	60	*	02/23/0518:14 02/23/0513:00 M47B020052 M47B020044	02/23/0513:00	M47B020052	M47B020044	HGB020W	01/31/05	02/02/05



LDC Report# 13235A2

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

January 31 through February 1, 2005

LDC Report Date:

March 14, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B011

Sample Identification

86-S1-084**

86-S1-085

86-S1-085MS

86-S1-085MSD



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-085MS/MSD (86-S1-085)	2-Chiorophenol	-	38 (41-125)	38 (≤30)	J (all detects) UJ (all non-detects)	Α

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05B011

SDG	Sample	Compound	Flag	A or P	Reason
05B011	86-S1-085	2-Chlorophenol	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05B011

No Sample Data Qualified in this SDG





Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

January 31 through February 1, 2005

LDC Report Date:

March 10, 2005

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B011

Sample Identification

86-S1-084**

86-S1-085

86-S1-085MS

86-S1-085MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample analysis is not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-085MS/MSD (All samples in SDG 05B011)	Dissolved mercury	130 (75-125)	158 (70-125)	-	J (all detects)	A

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05B011

SDG	Sample	Analyte	Flag	A or P	Reason
058011	86-\$1-084** 86-\$1-085	Dissolved mercury	J (all detects)	Α	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05B011

No Sample Data Qualified in this SDG

NUMBER - 034

TETRATECH 1230 Columbia Street, Saite 500 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

PROJECT NAME		PURCHASE ORDER NO	R NO.			ANALYSES REOUIRED LABOR	LABORATORY NAME			
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White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management

13235 CEMAN



1835 W. 205th Street Torrance, CA 90501 Tel: -(310),618-8889 Fax: (310) 618-0818

Date: 02-22-2005 EMAX Batch No.: 058044

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 02/08/05. The data reported include :

Sample 10	Control #	Col Date	Matrix	Analysis
* * *	~~~~~			~~~~~
86-\$1-086	8044-01	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-51-088	B044-02	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-S1-089	8044-03	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-\$1-090	B044-04	02/01/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerety yours, Kan Ring

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05B044

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Four (4) water samples were received on 02/08/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



	ORGANICS BY GC,		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 95B044 Sample ID: 86-\$1-086 Lab Samp ID: 8044-01 Lab File ID: RBH174 Ext Btch ID: SVB006W Calib. Ref.: RBH022	uate Date Date Date Dilut Matri % Moi	Collected: Received: Extracted: Analyzed: ion Factor: x sture	02/01/05 02/08/05 02/08/05 17:00 02/15/05 01:14 .94 WATER NA
PARAMETERS 2 A 5-TRICH GRODNENGS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2.4,5-TRICHLOROPHENOL 2.4-5 TRICHLOROPHENOL 2.4-5 DINITRODUCKORPHENOL 2.4-5 DINITROPHENOL 2.4-5 DINITRODUCKE 2.6-5 DINITRODUCKE 2.6-5 DINITRODUCKE 2.6-5 DINITRODUCKE 2.6-6 DINITRODUCKE 2.6-6 DINITRODUCKE 2.6-6 LOROMAPHTHALENE 2.6-6 LOROPHENOL 2.7-6 LOROMAPHTHALENE 2.6-6 LOROPHENOL 2.7-6 LOROMAPHTHALENE 2.6-6 LOROPHENOL 2.7-6 LOROMAPHTHALENE 2.7-6 LOROMAPHENOL 2.7-6 LOROMAPHENOL 2.7-6 LOROMAPHENOL 2.7-6 LOROMAPHENOL 2.7-6 LOROMAPHENOL 3.7-7-6 LOROMAPHENOL 4.7-6 LORO	의 분보는 이 이 이 에 보는 이 이 이 이 에 보는 이 이 이 에 내려가 보는 이 이 이 이 에 내려가 보는 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이	9999 11144449944449999 9999999999999999	777774467777467777777777777777777777777
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL MITROBENZENE-DS PHENOL-DS TERPHENYL-D14	% RECOVERY 76 59 70 67 105	25-134 43-125 25-125 32-125 32-125 42-125	

RL: Reporting Limit (1): Cannot be separated from 3-Methy(phenot (2): Cannot be separated from Diphenylamine



Client : TETRA TECH FW, INC. Project : MFA, SIYE 1, CTO 86 Batch No. : 058044 Sample ID: 86-S1-088 Lab Samp ID: B044-02 Lab File ID: RBH175 Ext 8tch ID: SVB006W Calib. Ref.: RBH022	Date Date Date Date Diluti Matrix % Mois	Collected: Received: Extracted: Analyzed: on Factor: iture: ment 1D:	02/01/05 02/08/05 02/08/05 02/08/05 02/15/05 01:42 .94 WATER NA T-041
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-CHLOROPHENOL 2-MITROPHENOL 2-MITROPHENOL 2-NITROANILINE 2-NITROANILINE 2-NITROANILINE 3,3-DICHLOROBENZIDINE 3-NITROANILINE 4-NITROANILINE 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENYL ETHER 4-CHLORO-3-METHYLPHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(C,HLOROANITRENE BENZO(C,HLOROETHYL)ETHER BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHAN	RESULTS (US/L) . ND ND ND ND ND ND ND ND ND ND ND ND ND N	R/L) -4444994444999 9999 999999999999999999	MDL) - 7777446777746777774467777777777777777
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RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 058044 Sample ID: 86-S1-089 Lab Samp ID: 8044-03 Lab File ID: RBH176 Ext Btch ID: SVB006W Calib. Ref.: RBH022	Date Date Date Date Date Dilu Matr % Mo	Collected: Received: Extracted: Analyzed: tion factor: ix	02/01/05 02/08/05 02/08/05 17:00 02/15/05 02:10 .94 WATER NA
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,6-DINITROTOLUENE 2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLNAPHTHALENE 2-MITROPHENOL 3-NITROANILINE 4,6-DINITROP-Z-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYLPHENOL 4-CHLORO-SMETHYL-PHENYL ETHER 4-CHLORO	RESULTS SULTS RL) 4444999 1999 1999 1999 1999 1999 1999	MDL) -7777-74-467777-46777777777777777777777	
RBAZOLE RROGATE PARAMETERS 4, 6-TRIBROMOPHENOL ELUOROBIPHENOL TROBENZENE-05 ENOL-05 PHENYL-014	ND % RECOVERY 79 69 54 66 60 101	9.4 90 LIMIT 25-134 43-125 25-125 32-125 42-126	4.7

3006



Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05B044 Sample ID: 86-S1-090 Lab Samp ID: 8044-04 Lab File ID: RBH177 Ext Stch ID: SVB006W Calib. Ref:: RBH022	Date Date Date Date Dilut Matri: % Moi: Instri	Collected: Received: Extracted: Analyzed: Analyzed: in Factor: x sture: Liment ID:	02/01/05 02/08/05 02/08/05 02/08/05 02/15/05 02:37 .94 WATER NA T-041
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DINTROTOLUENE 2.4-DINTROTOLUENE 2.6-DINTIROTOLUENE 2.6-DINTIROTOLUENE 2.5-CHLORONAPHTHALENE 2.5-CHLORONAPHTHALENE 2.5-CHLOROPHENOL 2.MITROPHENOL 2.MITROPHENOL 2.MITROPHENOL 2.MITROPHENOL 3.3'-DICHLOROBENZIDINE 3.NITROANILINE 4.6-DINTIRO-2-METHYLPHENOL 4.5-DINTRO-2-METHYLPHENOL 4.5-DINTRO-2-METHYLPHENOL 4.5-DINTRO-2-METHYLPHENOL 4.5-CHLORO-3-METHYLPHENOL 4.5-CHLORO-1-MITRO-2-METHYLPHENOL 4.5-CHLOROFTHYL-PHENYL 4.5-CHLOROFTHYL-PHENYL 4.5-CHLOROFTHYL-PHENYL 4.5-CHLOROFTHYL-PHENYL 4.5-CHLOROFTHYL-PHENE 4.5-CHLOROFT		9999 1994444499444444444444444444444444	-77774467777467777777777777777777777777
CARBAZOLE SURROGATE PARAMETERS	ND % RECOVERY	9.4 QC LIMIT	4.7
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	73 59 44 57 47 97	25 - 134 43 - 125 25 - 125 32 - 125 25 - 125 42 - 126	

RE: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

058044

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Four (4) water samples were received on 02/08/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample B023-02 from another SDG was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Duplicate

Duplicate sample was not designated in this SDG.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD 7470A DISSORVED MERCURY BY COLO VADO

Cilent Project Batch No.	: TETRA TECH FW, INC. : MFA, SITE 1, CTO 86 : 058044										Matrix Instru	sent ID :	WATER 11047
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	ENAX	RESULTS			i.	#0F	Aralysis	Extraction				Collection	Received
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86-81-086	10-7708	2	ymu	Z.	ιń	g	02/11/0516:28	02/11/0512:00 M47B013029	M47B013029	M478013020	KGB011W	02/01/05	02/08/05
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86-81-089	8044-03	2	4~~	Ø.	2.	e game	02/11/0516:32	02/11/0512:00 M47B013031	M47B013031	M478013020	HGB011W	02/01/05	02/08/05
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RL: Reporting Limit



LDC Report# 13235C2

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

February 1, 2005

LDC Report Date:

March 10, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B044

Sample Identification

86-S1-086

86-S1-088

86-S1-089

86-S1-090**



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

Cooler temperatures for all samples were reported at 10.4°C upon receipt by the laboratory.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-089 and 86-S1-090** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05B044

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05B044

No Sample Data Qualified in this SDG



LDC Report# 13235C4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, Site 1, CTO 86

Collection Date: February 1, 2005

LDC Report Date: March 10, 2005

Matrix: Water

Parameters: Dissolved Mercury

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B044

Sample Identification

86-S1-086

86-S1-088

86-S1-089

86-S1-090**



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample analysis is not required by the method.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) analyses specified for the samples in this SDG, and therefore matrix spike analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-089 and 86-S1-090** were identified as field duplicates. No dissolved mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05B044

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05B044

No Sample Data Qualified in this SDG

NUMBER 2002

TETRA TECH 1230 Columbia Street, Suite 500 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

or P 8 لأجير START END DEPTH Project Information Do not submit to Laboratory ž Section SAMPLING COMMENT LOCATION 0 3 SAMPLE CONDITION: | INTACT | BROKEN | INTACT | BROKEN 050028 COMMENTS FOR LABORATORY) LABORATORY NAME LABORATORY ID SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) ANALYSES REQUIRED LABORATORY INSTRUCTIONS/COMMENTS COMPOSITE DESCRIPTION TEMPERATURE COOLER SEAL Ž Z. 760) } ROJECT CONTACT PHONE NUMBER LEVEL AIRBILL NUMBER NO. OF CONTAINER 1 R. SHIP PROJECT NO. RECEIVED BY (Signature) (ECEIVED BY (Signature) RECEIVED BY (Signature) PURCHASE ORDER NO TIME 86-51-095 2-2-05 1630 OMPANY COMPANY COMPANY nace mace 7.5.6.7 DATE 2 - 3 - 2 C COLLECTED TIME DATE DATE TIME 30 100 ELINQUISHED BY (Signature) RELINQUISHED BY (Signature) RELINQUISHED BY (Signature) SAMPLE ID PROJECT LOCATION PROJECT CONTAC AMPLER NAME 27 COMPANY OMPANY

D016574_IN

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management



13235B



1835 W. 205th Street Torrance, CA 90501

Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 02-18-2005 EMAX Batch No.: 05B028

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200

Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on

02/04/05. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
	* * ~ * - * ^ *			·
86-\$1-091	B028-01	02/02/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-51-092	B028-02	02/02/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86~\$1-093	8028-03	02/02/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-51-094	B028-04	02/02/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86~\$1~095	B028-05	02/02/05	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05B028

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 02/04/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



	ion Factor: X : sture :	WATER NA
RESULTS (US/L) NO NO NO NO NO NO NO NO NO NO NO NO NO	RL) 4444999 1999 1144444444444444444444444	MDL) - 77774467777767777445.6777777777777774467777777777
ND ND ND ND ND RECOVERY 77 66 64	9.4 19 9.4 9.4 9.4 90 LIMIT 25-134 43-125	4.7 2.4 4.7 4.7 4.7
	(US) NO NO NO NO NO NO NO NO NO NO NO NO NO	(Ug/L) ND ND ND 9,4 ND 9,4 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND 19 ND ND ND 19 ND ND ND 19 ND ND ND ND 19 ND ND ND 19 ND ND ND ND ND ND ND ND ND N



	NORWIES DI GE/		
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : OSB028 Sample ID: 86-S1-092 Lab Samp ID: BUZ8-02 Lab File ID: RBH167 Ext Btch ID: SVB006W Calib. Ref.: RBH02Z	Date Date Date Dilut Matri % Moi Instri	Collected: Received: Received: Extracted: Analyzed: ion factor: X sture: ument ID:	02/02/05 02/04/05 02/07/05 17:00 02/14/05 22:01 .94 WATER NA T-041
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2-CHLOROPHENOL 2-MITROMILINE 2-MITROANILINE 2-NITROANILINE 2-NITROANILINE 3,3-DICHLOROBENZIDINE 3-NITROANILINE 4,6-DIMITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 6-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 6-CHLOROPHENYL-PHENYL PHENALE 6-CHLOROPHENYL-PHENYL-PHENALE 6-CHLOROPHENYL-PHENYL-PHENALE 6-CHLOROPHENYL-PHENALE 6-CHLOROPHENYL-PHENALE 6-CHLOROPHENYL-PHENALE 6-CHLOROPHENYL-PHENALE 6-CHLOROPHENALE 및 모임 및 모인 및 모인 및 모인 및 모인 및 모인 및 모인 및 모인	999119944444994444444444444444444444999999	777774677777467777777777777777777777777	
SURROGATE PARAMETERS	% RECOVERY	GC LIMIT	
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 YERPHENYL-D14	79 59 51 60 58 98	25 - 134 43 - 125 25 - 125 25 - 125 25 - 126 42 - 126	



	REARICS BY GC/		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 058028 Sample ID: 86-S1-093 Lab Samp ID: 8028-03 Lab File ID: RBH168 Ext Btch ID: SVB006W Calib. Ref.: RBH022	Date Date Date Date Dilut Matri % Moi	Collected: Received: Extracted: Analyzed: ion Factor: x sture:	02/02/05 02/04/05 02/07/05 17:00 02/14/05 22:28 .94 WATER
PARAMETERS 2, 4, 5-TRICHLOROPHENOL 2, 4, 6-TRICHLOROPHENOL 2, 4-DINITROPHENOL 2-CHLOROMPHTHALENE 2-CHLOROMPHTHALENE 2-CHLOROPHENOL 2-METHYLPHENOL 2-NITROPHENOL 3-NITROPHENOL 3-NITROPHENOL 4-NITROPHENOL 4-CHLOROSENZIDINE 3-NITROANILINE 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-NITROPHENOL ACENAPHTH'LENE ACENAPHTH'LENE ANTHRACENE BENZO(A)PYRENE BENZO(G, A)PYRENE BENZO(G, B)FLUGRANTHENE BENZO(G, H)-PERYLENE BENZO(G, H)-PERYLENE BENZO(G, H)-PERYLENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHANY)PHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-COTYLPHTHALATE DI-N	RESULTS (UP - 1) - NO BE NO B	RL) -4444999 999 999 999 999 999 999 999 99	MDL)-77774467777467777746777777777777777777
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	Nummica of uc/m		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 058028 Sample ID: 86-51-094 Lab Samp ID: B028-04 Lab File ID: RBH169 Ext Btch ID: SV8006W Calib. Ref.: RBH022	Bate Date Date Date Dituti Matrix % Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	02/02/05 02/04/05 02/07/05 17:00 02/14/05 22:56 .94 WATER NA T-041
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.CHLOROPHENOL 2.CHLOROPHENOL	RESULTS (Ug/L) ND ND ND ND ND ND ND ND ND N	RL (ug/L) 	MDL (ug/L) 4.7 4.7 4.7 9.4 5.6 4.7
2-METHYLNAPHTHALENE 2-MITRUPHENOL 2-NITROANILINE 2-NITROANILINE 3-NITROANILINE 3-NITROANILINE 4-C-INITRO-2-METHYLPHENOL 4-EROMOPHENYL-PHENYL ETHER 4-C-LOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-METHYLPHENOL 4-METHYLPHENOL 1)	HD HD HD ND ND ND ND ND ND ND ND ND ND ND ND ND	79-44 9-44 9-44 9-44 9-44 9-44 9-44	4-7-7-65-6-7-7-65-6-7-7-9-6-6-7-7-7-6-6-7-7-7-7-7-7-7-7-7
4-NITROANILINE 4-NITROPHENOL ACENAPHTHENE ACENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(K)FLUORANTHENE BENZO(K)FLUORANTHENE BENZO(G, H, 1)PERYLENE BIS(2-CHLOROETHY)BETHENE BIS(2-CHLOROETHY)BETHER BIS(2-CHLOROETHY)BETHER	ND ND ND ND ND ND ND ND ND ND ND ND ND N	9 1.444444444444444444444444444444444444	777774467777774677777777777777777777777
BIS(2-CHLOROISOPROPYL)ETHER BIS(2-ETHYLERYL)PHTHALATE BUTYLBENZYLPHTHALATE CHRYSENE DI-N-BUTYLPHTHALATE DI-N-OCTYLPHTHALATE DIBENZO(A, N)ANTHRACENE DIBENZOFURAN DIETHYLPHTHALATE DIMETHYLPHTHALATE FLUORANTHENE FLUORANTHENE FLUORENE	NO ND ND ND ND ND ND ND ND	19444 90.44 90.44 90.44 90.44 90.44 90.44	94.7777744.77767776544.7776556
HEXACHLOROCYCLOPENTADIENE HEXACHLOROCYCLOPENTADIENE INDENO(1,2,3-CD)PYRENE ISOPHORONE N-MITROSG-DI-N-PROPYLAMINE N-MITROSG-DI-N-PROPYLAMINE N-MITROSG-DI-N-PROPYLAMINE N-MITROSG-DI-N-PROPYLAMINE N-MITROSG-DI-N-PROPYLAMINE N-MITROSG-DI-N-PROPYLAMINE PENTALCHLOROPHENOL PHENANTHRENE PHENOL PYRENE 1,11-BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE	MD ND ND ND ND ND ND ND ND ND ND ND	9.44 9.44 9.44 9.44 9.44 9.44 9.44 9.44	4.77 4.77 4.77 4.77 9.46 7.77 4.77 4.77 4.77
CAPROLACTAM CARBAZOLE SURROGATE PARAMETERS 2, 4, 6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	ND ND % RECOVERY 78 56 56 63 64 97	9.4 9.4 9C LIMIT 25-134 43-125 25-125 25-125 42-126	4.7 4.7



	: OKGANIUS BY GC		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 058028 Sample ID: 86-S1-095 Lab Samp ID: 8028-05 Lab File ID: RBH170 Ext Btch ID: Sy8006W Calib. Ref.: RBH022	Bate Date Date Dilu Matr % Moi	Collected: Received: Extracted: Analyzed: tion Factor: ix	02/02/05 02/04/05 02/07/05 17:00 02/14/05 23:24 .94 WATER NA
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-METHYLHAPHTHALENE 2-METHYLPHENOL 3,31-DICHLOROBENZIDINE 3,31-DICHLOROBENZIDINE 3-NITROANILINE 4-NITROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 6-NITROANILINE	RL)-44449999919999999999999999999999999999	MDL)-77774467777667777667777677777777777777	
L: Reporting Limit			



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05B028

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Five (5) water samples were received on 02/04/05 for Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution /Analytical Spike

Sample B023-02 from another SDG was analyzed for serial dilution and analytical spike. QC criteria were met.

5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

betti No. : USBVZD srunmannametromonnamenoperopaniopaniopeniopeniopenioming
RESULTS
(ug/L) DLF MOIST (ug/L)

S. AM
1 NA .2
5. AM 1
1 NA .2
1 MA .2
1 NA .2
1 MA .2
Z, AM



LDC Report# 13235B2

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

February 2, 2005

LDC Report Date:

March 10, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B028

Sample Identification

86-S1-091

86-S1-092

86-S1-093**

86-S1-094

86-S1-095



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were not within QC limits. Since there were no associated samples, no data were qualified.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05B028

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05B028

No Sample Data Qualified in this SDG



LDC Report# 13235B4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

February 2, 2005

LDC Report Date:

March 10, 2005

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05B028

Sample Identification

86-S1-091

86-S1-092

86-S1-093**

86-S1-094

86-S1-095



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- .I Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample analysis is not required by the method.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) analyses specified for the samples in this SDG, and therefore matrix spike analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05B028

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05B028

No Sample Data Qualified in this SDG

TETRATECH 1230 Columbia Street, Sulte 500 Sun Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

BOOKET NAME	*	PURCHASE ORD	ER NO		***************************************	1		LABORATORY NAME			-
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White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management



1835 W. 205th Street Torrance, CA 90601 - Tel: (310) 618-8889 - Fax: (310) 618-0818

Date: 03-29-2005 EMAX Batch No.: 05C073

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on $\theta 3/09/05.$ The data reported include :

Sample ID	Control #	Cot Date	Matrix	Analysis
86-\$1-096	C073-01	03/07/05	WATER	MERCURY DISSOLVED
86-\$1-097	C073-02	03/07/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-098	C073-03	03/07/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-100	C073-04	03/07/05	WATER	SEMIVOLATILE ORGANICS BY SCMS MERCURY DISSOLVED
86-51-101	C073-05	03/07/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-51-102	C073-06	03/08/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-S1-103	0073-07	03/08/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-51-104	C073-08	03/08/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-105	0073-09	03/08/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-S1-097MS	CO73-02M	03/07/05	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED



Sample ID

Control # Col Date Matrix Analysis

86-S1-097MSD

C073-02S 03/97/05 WATER SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director

- 1001



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05C073

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Nine (9) water samples were received on 03/09/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample C073-02 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



Client : IETRA IECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05C073 Sample ID: 86-S1-096 Lab Samp ID: C073-01 Lab File ID: RCH218 Ext Btch ID: SVC02CW Calib. Ref.: R8H022		Collected: Received: Extracted: Analyzed: ion Factor: X Sture Ument ID:	
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,6-TRICHLOROPHENOL 2,4-6-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRITROPOLUENE 2-6-TRICHOROPHENOL 2-6-TRICHOROPHENOL 2-METHYLNAPHTHALENE 2-MITROPHENOL 2-METHYLNAPHTHALENE 2-MITROPHENOL 3-TRICHOROBENZIDINE 3-TRICHOROBENZIDINE 3-TRICHOROPHENOL 4-6-TRICHOROPHENOL 4-6-TRICHOROPHENOL 4-6-TRICHOROPHENOL 4-CHLOROPHENOL-PHENOL 4-CHLOROPHENOL-PHENOL 4-MITROPHENOL 4-MITROSODIPHENYLOPHTHALATE 5-MITROPHENOL 6-MITROPHENOL	0999	777744677777677774677777777777777777777	
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Client : TETRA TECH FW, INC. Project : MFAO SITE 1, CTO 86 Batch No. : 05C073 Sample ID: 86-S1-097 Lab Samp ID: C073-02 Lab File ID: RCH219 Ext 8tch ID: SVC020W Calib. Ref.: RBH022		ment ID :	03/07/05 03/09/05 03/09/05 03/19/05 18:00 03/14/05 17:08 04/05 04/05 05/05/05/05/05/05/05/05/05/05/05/05/05/0
PARAMETERS 2, 4, 5-TRICHLOROPHENOL 2, 4, 6-TRICHLOROPHENOL 2, 4, 0-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROTOLUENE 2, 6-DINITROTOLUENE 2, 6-DINITROTOLUENE 2, 6-DINITROTOLUENE 2, 6-DINITROTOLUENE 2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-MITROANTLINE 2-MITROANTLINE 2-MITROANTLINE 3, 3'-OICHLOROBENZIDINE 3-MITROANILINE 4, 6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-MITROANILINE 4-	RESULTATION OF THE PROPERTY OF	RL) 444409444499444499944444494449444999444449994444	L)-77774467777467777746777777777777777777
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Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 05C073 Sample ID: 86-S1-098 Lab Samp ID: C073-03 Lab File ID: RCH222 Ext Btch ID: SVC020W Calib. Ref.: RBH022		Collected: Received: Extracted: Analyzed: ion factor: sture ment ID	
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,5-DICHLOROPHENOL 2.4,-DIMITROPHENOL 2.4,-MITROPHENOL 2.4,-MITROPHENOL 2.4,-MITROPHENOL 2.4,-MITROPHENOL 2.4,-DIMITROPHENOL 4.5,-DIMITROPHENYL-PHENYL ETHER 4.5,-DIMITROPHENYL-PHENYL ETHER 4.5,-DIMITROPHENYL-PHENYL ETHER 4.5,-DIMITROPHENYL-PHENOL 4.5,-DIMITROPHENYL-PHENYL ETHER 4.5,-MITROPHENYL-PHENYL ETHER 4.5,-MITROPHENYL-PHENYL ETHER 4.5,-MITROPHENGL 4.5,-MITROPHENGL 4.5,-MITROPHENGL 4.5,-MITROPHENGL 4.5,-MITROPHENGL 6.5,-MITROPHENGL CULTS (U) STORES SEED SEED SEED SEED SEED SEED SEED S	RL) 44449994444999444499444499444499999 9999 9999 9999 9999 9999 9999 9999	HDZ 44467777767777467777777777777777777777	
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Client : IETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 95073 Sample ID: 86-51-100 Lab Samp ID: C073-04 Lab File ID: RCH223 Ext Btch ID: SVC020W Calib, Ref.: RBH022		Collected: Received: Received: Extracted: Analyzed: Ion Factor: (:: :::::::::::::::::::::::::::::::	03/07/05 03/09/05 03/10/05 18:00 03/14/05 18:59 .94 WATER NA T-041
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Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05C073-05 Lab Sample ID: 86-S1-101 Lab Samp ID: C073-05 Lab File ID: RCHZ38 Ext Btch ID: SVC020W Calib. Ref.: RBH022	% Moi	Collected: Received: Extracted: Analyzed: ion Factor: X sture	NA T-041
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,6-DINITROPHENOL 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-CHLOROPHENOL 2-MITROANILINE 2-NITROANILINE 4-DINITROPHENOL 3,31-DICHLOROBENZIDINE 3-NITROANILINE 4-DINITROANILINE 4-DINITROANILINE 4-DINITROANILINE 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-1-MENYL-PHENYL ETHER 4-METHYLPHENOL 4-CHLORO-1-MENYL-PHENYL ETHER 4-MITROPHENOL 4-MITROANILINE 4-NITROPHENOL 4-MITROANILINE BENZO(A) PYRENE BENZO(A) PYRENE BENZO(A) PYRENE BENZO(B) FLUORANTHENE BENZO(B) FLUORANTHENE BENZO(C) H. J. PERYLENE BIS(2-CHLOROETHYL) ETHER BIS(2-CHLOROETHONY) METHALATE DIBENZO(A, H) ANTHRACENE DIBENZO(B) DIETHYLPHTHALATE DIBENZO(B) DIETHYLPHTHALATE DIBENZO(B) DIMETHYLPHTHALATE DIBENZO(B) DIMETHYLPHTHALATE DIBENZO(B) DIMETHYLPHTHALATE DIBENZO(B) DIMETHYLPHTHALATE BUBBNO(1, 3-CD) PYRENE BOPHOROME N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE DI-N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE DI-N-NITROBENZENE BENZALDEHYDE CARPOLL-CACIAM CARBAZOLE SURROGATE PARAMETERS 2-4-G-TRIBROMOPHENOL 2-FLUOROPHENOL 2	RESULTION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DE LA COMPANSION NO DEL COMPANS	R/) 55559999555995559905559955595555555555	L);888855788887678888588888888888888888888
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SEMI VOLATILE ORGANICS BY GLYMS					
Client : TETRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No.: 05C073 Sample : ID: 86-51-102 Lab Samp ID: C073-06 Lab File ID: RCHZ39 Ext Btch ID: SVC020W Calib. Ref.: RBH022	Date Date Date Diluti Matrix % Mois	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	03/08/05 03/09/05 03/10/05 18:00 03/15/05 13:31 .97 WATER NA T-041		
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMITROTOLUENE 2,4-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,1-DIMITROTOLUENE SULTS (Jg/L) ND ND ND ND ND ND ND ND ND ND ND ND ND	RL) 77777999777797777977779777797777997777997777	1) 000077490000000000000000000000000000000			



Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No. : 05C073 Sample ID: 86-S1-103 Lab Samp ID: C073-07 Lab File ID: RCH240 Ext Btch ID: SVC020W Calib. Ref.: RBH022	Date Date Date Diluti Matrix X Mstri	Collected: Received: Extracted: Analyzed: on Factor: ture :	03/08/05 03/09/05 03/10/05 18:00 03/15/05 13:58 .94 WATER NA T-041
PARAMETERS 2, 4, 5-TRICHLOROPHENOL 2, 4-DIMETRYCHENOL 2, 4-DIMETRYCHENOL 2, 4-DIMETRYCHENOL 2, 4-DIMITROPHENOL 2, 4-DIMITROPHENOL 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROPHENAL 2-CHLOROPHENAL 2-MITROANILINE 2-MITROANILINE 2-MITROANILINE 4, 6-DIMITRO-2-METHYLPHENOL 4-EROMOPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-MITROANILINE 4-MITROSODIPHENALATE DIEMZOOLANILINE 4-MITROSODIPHENALATE MITROSODIPHENALATE MITROSODIPHENALATE MITROSODIPHENALAMINE N-MITROSODIPHENALAMINE MITROBERIZE PERVACHLOROPHENOL PHENANIHENE PHENOL PHENANIHENE PHENOL PHE		L) - 444499944444994444444444444444444444	L) 77774467777467777746777777777777777777
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SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

The state of the s		,	
Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : OSCO73 Sample ID: 86-S1-104 Lab Samp ID: CO73-08 Lab File ID: RCH241 Ext Btch ID: SVC020W Calib. Ref:: RBH022	% B	e Collected: e Received: e Extracted: e Analyzed: ution Factor: rix oisture trument ID	WAIEK
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,-DICHLOROPHENOL 2.4,-DIMETHYLPHENOL 2.4,-DINITROPHENOL 2.4,-DINITROPHENOL 2.4,-DINITROTOLUENE 2.6-LOROPHENOL 2.MITROPHENOL 2.MITROANILINE 2.MITROANILINE 4.MITROANILINE 4.MITROANILINE 4.MITROANILINE 4.CHLOROPHENOL 4.BROMOPHENOL 4.BROMOPHENOL 4.CHLOROPHENOL 6.CHLOROPHENOL # 1	R/L-444499044444999444449994444449999999999	HDL1 - 7777446777744677777777777777777777777	
L: Reporting Limit			

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SEMI VOLATILE	ORGANICS BY GC,	/MS	
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : CC073 Sample ID: 86-S1-105 Lab Samp ID: C073-09 Lab File ID: RCH262 Ext Btch ID: SVC020W Calib. Ref: RBH022	% Moi	Collected: Received: Extracted: Analyzed: ion factor: x sture	WATER
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,0-TRICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMITROTOLUEME 2,6-DIMITROTOLUEME 2,6-DIMITROTOLUEME 2,CHLOROPHENOL 2,METHYLMPHTHALEME 2-METHYLMPHTHALEME 2-MITROPHENOL 2-MITROPHENOL 2-MITROPHENOL 3,3'-DICHLOROBENZIDINE 3'-NITROANILINE 2-MITROPHENOL 3,3'-DICHLOROBENZIDINE 3'-NITROANILINE 4-GHOROPHEN'L-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-MITROPHENOL ACEMAPHTHENE ACEMAPHTHENE ACEMAPHTHENE ACEMAPHTHENE BENZO(A)ANHTRACEME BENZO(A)ANHTRACEME BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BENZO(G)BILUGRANTHENE BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETH	######################################	RL) 4444999444449994444449999999999999999	T-041 MJ- 4444995444967777777777777777777777777777
SHEDOCATE DADAMETERS	ND ND % RECOVERY 92 73 61 61 65 102	9.4 9.4 9.4 90. LIMIT 25-134 43-125 25-125 25-125 42-126	₹. 7 4. 7

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05C073

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Nine (9) water samples were received on 03/09/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

Holding Time

Analysis met holding time criteria.

2. Nethod Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample C073-02 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample C073-02 was spiked. All recoveries were within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

All samples were reported from dilution runs due to matrix interference.



METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

## ## ##	57 H 57 H 57 H 57 H 57 H 57 H 57 H 57 H
MATER T1047	Received DATETINE 03/17/05 03/17/05 03/17/05 03/09/05
Matrix : :	CGI (Ecction DATETIME NA NA NA 03/07/05 03/07/05 03/08/05 03/08/05 03/08/05 03/08/05 03/08/05 03/08/05 03/08/05 03/07/05
Matrix	PREP BATCH HGCO22W HGCO22W HGCO22W HGCO22W HGCO22W HGCO22W HGCO22W HGCO22W HGCO22W HGCO25W
	CAL REF M47C018008 M47C018008 M47C0180043 M47C018043 M47C018043 M47C018043 M47C018043 M47C018055 M47C018055 M47C018055 M47C020009 M47C020009 M47C0200021 M47C020021
Matrix Antrix An	EXFERCTION DATETINE 03/17/0516:00 M47C018010 03/17/0516:00 M47C018011 03/17/0516:00 M47C018011 03/17/0516:00 M47C018051 03/17/0516:00 M47C018051 03/17/0516:00 M47C018051 03/17/0516:00 M47C018051 03/17/0516:00 M47C018058 03/17/0516:00 M47C018058 03/17/0516:00 M47C018058 03/17/0516:00 M47C018058 03/17/0516:00 M47C018058 03/17/0516:00 M47C018058 03/17/0516:00 M47C020011 03/21/0509:30 M47C020012 03/21/0509:30 M47C020028 03/21/0509:30 M47C020028 03/21/0509:30 M47C020028 03/21/0509:30 M47C020028 03/21/0509:30 M47C020028 03/21/0509:30 M47C020028
	Analysis DATETIME
	(ug Xp)
	(ugg / 1)
	DLF MOIST 1 NA 1 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 1 NA 1 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA 20 NA
	RESULTS (UG/L)
Cient : YETRA TECH FW, INC. Project : MFA, SiTE 1, CTO 86 Batch No. : 05c073	EMAX SAMPLE ID HGC022WE HGC022WC C073-01 C073-04 C073-04 C073-04 C073-04 C073-04 C073-04 C073-04 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02 C073-02
Client Client Project Batch No.	SAMPLE 1D "MBLK1W [CS1W [CS1W LCD1W B6-S1-098 86-S1-100

RL: Reporting Limit

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: March 7 through March 8, 2005

LDC Report Date: April 14, 2005

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05C073

Sample Identification

86-S1-096

86-S1-097

86-S1-098

86-S1-100

86-S1-101

86-S1-102

86-S1-103

86-S1-104**

86-S1-105

86-S1-097MS

86-S1-097MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	A or P
86-91-102	Chrysene-d12	477919 (579220-2316882)	Pyrene Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate	J (all detects) UJ (all non-detects)	b

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-103 and 86-S1-104** were identified as field duplicates. No volatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05C073

SDG	Sample	Compound	Flag	A or P	Reason
05C073	86-S1-102	Pyrene Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate	J (all detects) UJ (all non-detects)	Þ	internal standards (area)

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05C073

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. **Data Validation Report**

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: March 7 through March 8, 2005

LDC Report Date: April 11, 2005

Matrix: Water

Parameters: Dissolved Mercury

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05C073

Sample Identification

86-S1-096

86-S1-097

86-S1-098

86-S1-100

86-S1-101

86-S1-102

86-S1-103

86-S1-104** 86-S1-105

86-S1-097MS

86-S1-097MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 11 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample analysis is not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

NUMBER 10328

TETRATECH 1230 Columbia Street, Smire 500 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

Æ 8 START END DEPTH Project Information Do not submit to Laboratory SAMPLING COMMENT LOCATION SAMPLE CONDITION: DINIACTED BROKEN COMMENTS 15C08 LABORATORY NAME ABORATORY ID SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) ANALYSES REQUIRED O INDACT O DROKEN LABORATORY INSTRUCTIONS/COMMENTS COMPOSITE DESCRIPTION Wah DININ TEMPERATURE COOLERSEAL RPAX2-The second second March 1 LEVEL 4 XX XX XX PROJECT CONTACT PHONE NUMBER 3000 CONTAINER NO. OF 1 RECEIVED BY (Signature) RECEIVED BY (Signature) RECEIVED BY (Signature) PURCHASE ORDER NO. AIRBILL NUMBER COLLECTED ROJECT NO OMPANY COMPANY COMPANY Y T COLLECTED DATE DATE TIME TME TIME 0 RELINQUISHED BY (Signature) VELINQUISHED BY (Signature) RELINQUISHED BY (Signature) PROJECT CONTACT SAMPLE ID PROJECT LOCATION AMPLER NAME ROJECT NAME Ì COMPANY OMPANY OMPANY

0016915-1N

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management





1835 W. 205th Street Torrance, CA 90501

Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 03-29-2005 EMAX Batch No.: 050081

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTD 86

Enclosed is the Laboratory report for samples received on 03/10/05. The data reported include : $\,$

Sample ID

Control # Col Date Matrix Analysis

86-\$1-106

C081-01 03/08/05 WATER

86-\$1-107

C081-02 03/08/05 WATER MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED

SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05C081

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Two (2) water samples were received on 03/10/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05C081 Sample 10: 86-S1-106 Lab Samp ID: C081-01 Lab File 10: RCH243 Ext Btch ID: SVC020W Calib. Ref.: RBH022	% Mais Instru	Collected: Received: Extracted: Analyzed: on Factor: ture: ment ID:	03/10/05 03/10/05 03/10/05 03/10/05 03/15/05 15:21 94 WATER NA T-041
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROTOLUENE 2.4.5-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITRODENOL 2.6-METHYLPHENOL 2.6-MITROPHENOL 3.3-1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHCOROBENZIDINE 3.1-DICHCOROBENZIDINE 3.1-DICHCOROBENZIDINE 3.1-DICHCOROBENZIDINE 3.1-DIC	RESULTS ()9/1; ND ND ND ND ND ND ND ND ND ND ND ND ND N	RL) 4444999444499444994449944444444444449999	DL) - 7777-44677777467777467777777777777777
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENGL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 87 73 62 68 67 99	9C LIMIT 25-134 25-125-125-125-125-125-125-125-125-125-1	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

-40.4	SANITO DI RELIE		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 05C081 Sample ID: 86-S1-107 Lab Sampl ID: C081-02 Lab File ID: RCH244 Ext Btch ID: SVC920W Calib. Ref.: RBH022	Date Date Date Diluti Matrix % Mois Instru	Collected: U3 Received: U3 Extracted: U3 Analyzed: U3 On Factor: .9 ture	708/05 710/05 710/05 710/05 715/05 715/05 715/05 715/05 715/05
PARAMETERS 2, 4, 5-TRICHLOROPHENOL 2, 4, 6-TRICHLOROPHENOL 2, 4-DIMETRY PHENOL 2, 4-DIMITROPHENOL 2, 4-DIMITROPHENOL 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROTOLUENE 2, 4-DIMITROPHENOL 2, MITROANILINE 2, MITROANILINE 3, 31-DICHLOROBENZIDINE 3, 31-DICHLOROBENZIDINE 3, 31-DICHLOROBENZIDINE 3, 31-DICHLOROBENZIDINE 3, 4-DIMITRO-2, METHYLPHENOL 4, 8-DIMITRO-2, NE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 4, 8-DIMITROMILINE 6, 8-DIMIT		RL) 44449094444944499444994999999999999999	N) 7777744677776677777777777777777777777
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2-FLUOROPHENOL 2-FLUOROPHENOL NITROSENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 91 78 61 69 69 104	QC LIMIT 25-13/4 43-125 25-125 32-125 32-125 42-126	

Rt: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05C081

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Two (2) water samples were received on 03/10/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample C073-02 from another SDG was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were reported from dilution runs due to matrix interference.



METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

** HOG?	Received	DATETIME		03/21/05	03/21/05	03/21/05	03/10/05	03/10/05
datríx : WATER (nstrument 10 : 11047	Collection	DATETIME		NA	NA	NA	03/08/05	03/08/05
Matrix Instru		PREP BATCH	* * * * * * * * * * * * * * * * * * * *	HGC025W	HGC025W	HGC025W	HGC025W	HGC025W
14 14 14 14 14 14 14 14 14 14 14 14	/ 建甘芹油谷种谷种谷种	CAL REF	5 5 6 6 7	M47c020009	M4.7c020009	M47c020009	M47c020032	M47c020036
	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	LFiD	1 1 2 2 2	M470020011	M47c020012	M47c020013	M47C020035	M47c020038
	Extraction	DATETIME	1 1 1 1 1 1 1	03/21/0509:30 M47c020011	03/21/0509:30 M47C020012	03/21/0509:30 M47c020013	03/21/0509:30 M47c020035	03/21/0509:30 M470020038
	Analysis	DATETIME		03/21/0515:19 (03/21/0515:21	03/21/0515:23 (03/21/0516:13	03/21/0516:26
	MOL	(ng/f)	1 1 1 1 1 1	~~ *~	۲.	~- •-	N	N
	mmmen man	(1/6n)	2 4 2 1 4	٢į	Ç.	'n	~ 3*	√\$
		DLF MOIST	5 h	×.	AA	×	A.W	Z
77 55 63 83 83	13 53 66 86	2.5	1	£	e-	Source	2	20
0.00 October 100 O	RESULTS	(ng/f)	1 1 4 4	QN	5,14	5,13	2	S
	mandamandamandamandamandamandamandamand	SAMPLE ID	* * * * * * * * * * * * * * * * * * * *	RGC025WB	HGC025WL	HGC025WC	50-1800	C081-01
Client : TETRA Project : MFA, S Batch No. : 050081	计算机 化氯化 医乳球 医甲状腺素 医甲状腺素 医甲状腺素 医甲状腺素 医甲状腺素	SAMPLE 10	\$ F F F F F F F F F F F F F F F F F F F	MSIK1V	LCS1W	1.001x	86-51-107	86-\$1-106

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: March 8, 2005

LDC Report Date: April 14, 2005

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05C081

Sample Identification

86-S1-106** 86-S1-107

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05C081

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05C081

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: March 8, 2005

LDC Report Date: April 11, 2005

Matrix: Water

Parameters: Dissolved Mercury

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05C081

Sample Identification

86-S1-106** 86-S1-107

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample analysis is not required by the method.

V. Matrix Spike Analysis

The laboratory has indicated that there were no matrix spike (MS) analyses specified for the samples in this SDG, and therefore matrix spike analyses were not performed for this SDG.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05C081

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05C081

No Sample Data Qualified in this SDG

TETRA TECH
1239 Columbia Street, Sales 500
San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

SITE | ANNUAL START END 1 1 Project Information Do not submit to 1 くつのい Laboratory Section SAMPLING COMMENT TRIP BIANK WI-IZ-R MI -- 12/6 LOCATION ナーション RUN ME MSD WI- 19 アンドラ SAMPLE CONDITION: | INTACT | BROKEN METALS & MERCHEN AS FIRM PLESCED COMPOSITE DESCRIPTION COMMENTS という FOR LABORATORY) 190CS0 ABORATORY NAME ABORATORY ID SAMPLE CONDITION UPON RECEIPT (FOR LABORATORY) D BROKEN ANALYSES REQUIRED ABORATORY INSTRUCTIONS/COMMENTS O INTACT TEMPERATURE COOLER SEAL Z 2 <u>{</u> <u>.£</u> 1 850458348348 PG PO 756 - 75 SF LEVEL 20848 TASK 2X NO. OF CONTAINER 1990.0868 3 W RECEIVED BY (Signature) RECEIVED BY (Signature) URCHASE ORDER NO 00000 Jan 1. 11-1530 #-12-01 101X イン・40 0 930 COLLECTED 000 8-11-02 1230 OMPANY W.Lr.of 101/14 COLLECTED ここの DATE WEEFETT FELL CA TIME YUN TEFFERSON YOFFETT - SITE のにの名か 11-1s-% 011-15-97 ELINQUISHED BY (Signature) ングースーペ 77-15-98 99-15-98 75/1/5/20 01/18/2 SAMPLE ID COLECT LOCATION MPANY

White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management



1835 W. 205th Street Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 05-09-2005 EMAX Batch No.: 050061

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 04/13/05. The data reported include:

Sample ID Control # Col Date Matrix Analysis 86-\$1-122 D061-01 04/11/05 WATER VOLATILE ORGANICS BY GC/MS 04/11/05 WATER VOLATILE ORGANICS BY GC/MS 86-\$1-110 D061-02

PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED

MT2008DW

SEMIVOLATILE ORGANICS BY GCMS 86-\$1-112 D061-03 04/11/05 WATER VOLATILE ORGANICS BY GC/MS

PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS)

MERCURY DISSOLVED

MT2008DW

SEMIVOLATILE ORGANICS BY GCMS 86-\$1-113 D061-04 04/12/05 WATER VOLATILE ORGANICS BY GC/MS

PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS)

MERCURY DISSOLVED

MT2008DW

SEMIVOLATILE ORGANICS BY GCMS



	Control #	Col Date	Matrix	Analysis
86-\$1-114	p061-05		WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS
86-S1-115	D061-06	04/12/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS
86-S1-110MS	D061-02M	04/11/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS
86-S1-110MSD	D061-02S	04/11/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS

Note: Results for Dissolved Metals which were subcontracted to Columbia Analytical Services, Inc. may be found in SDG 05D053.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director





CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D061

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 04/13/05 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit except Toluene-d8 in LCS1W but recovery of target analyte met QC criteria.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample D061-02 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteriawere met with the aforementioned exception.



SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

VOLATILE ORG	GANICS BY GC/MS		
Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050061 Sample ID: 86-51-122 Lab Samp ID: 0061-01R Lab File ID: RDP174 Ext Btch ID: V002D13 Calib. Ref.: R0P025	Date Date Date Diluti Matris Mois Instru	Received: 0 Extracted: 0 Analyzed: 0 on Factor: 1 ture : N ment ID : T	4/11/05 4/13/05 4/13/05 6/16/05 01:18 4/16/05 01:18 ATER A -002
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
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R.L.: Reporting limit * : Out of GC E : Exceeded calibration range B : Found in associated method bl J : Value between R.L. and MOL	ank		

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Velue from dilution analysis
Diluted out



SW 50308/82608 VOLATILE ORGANICS BY GC/MS

VOLATILE OR	GANICS BY GC/MS		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 05D061 Sample ID: 86-S1-110 Lab Samp ID: D061-02R Lab File ID: RDP175 Ext Btch ID: V002D13 Calib. Ref.: RDP025	Date Date Date Diluti Matrix % Mois Instru	Collected: 04/1 Received: 04/1 Extracted: 04/1 Analyzed: 04/1 on Factor: 1 ture : NA ment ID : 1-00	3/05 6/05 01:56 6/05 01:56 R
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R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method b J : Value between R.L. and MDL	olank		

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out



SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D061 Sample ID: 86-S1-112 Lab Samp ID: D061-03R Lab File ID: RDP176 Ext 8tch ID: V002D13 Calib. Ref.: RDP025	Instr	Collected: Received: Extracted: Analyzed: Ion Factor: X sture ument ID	04/11/05 04/13/05 04/16/05 02:35 04/16/05 02:35 04/16/05 02:35 UATER NA T-002
PARAMETERS 1.1.1.2-TETRACHLOROETHANE 1.1.1-TRICHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHONE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.1-DICHLOROBENZENE 1.2.1-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 2-DICHLOROPROPANE 2-BUTANONE 2-CHLOROFORDANE 2-BUTANONE 2-CHLOROFORDANE 2-BUTANONE 2-CHLOROFORDANE 2-BUTANONE 2-CHLOROFORDANE 2-CHLOROFIHANE 2-CHLOROFORDANE 3-CHLOROFORDANE UY/L) SUS/L) ND ND ND ND ND ND ND ND ND ND ND ND ND	RA), NINTWINININININININININININININININININI	MD/) - REMARKARIARIARIARIARIARIARIARIARIARIARIARIARIA	
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J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out



SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : LETRA IECH FW INC. Project : MFA SITE 1, CTO 86 Batch No : 050061 Sample ID: 86-S1-113 Lab Samp ID: 0061-04 Lab File ID: RDP177 Ext Btch ID: V002D13 Calib. Ref.: RDP025	Date Date Date Dilut Matri % Moi	Collected: Received: Extracted: Analyzed: ion Factor: X sture	: WATER VA C-002
PARAMETERS 1.1, 1, 2-TETRACHLOROETHANE 1.1, 1-TRICHLOROETHANE 1.1, 2-TETRACHLOROETHANE 1.1, 2-TRICHLOROETHANE 1.1, 2-TRICHLOROETHANE 1.1, 2-TRICHLOROETHANE 1.1, 2-TRICHLOROETHANE 1.1, 2-DICHLOROPPOPENE 1.2, 3-TRICHLOROBENZENE 1.2, 3-TRICHLOROBENZENE 1.2, 3-TRICHLOROBENZENE 1.2, 4-TRIMETHYLBENZENE 1.2, 4-TRIMETHYLBENZENE 1.2, 1-DICHLOROBENZENE 1.2, 1-DICHLOROPROPANE 1.2, 1-DICHLOROPROPANE 1.2, 1-DICHLOROPROPANE 1.2, 1-DICHLOROPROPANE 1.2, 1-DICHLOROPROPANE 1.3, 5-TRIMETHYLBENZENE 1.3, 5-DICHLOROPROPANE 1.3, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1.4, 1-DICHLOROPROPANE 1-DICHLO	RESULTS (19/1) NO NO NO NO NO NO NO NO NO NO NO NO NO N	RL) NUTERION NOTES SEES SEES SEES SEES SEES SEES SEES	MLL:



SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC.	VOLATILE ORGA	INICS BY GC/MS		
PARAMETERS	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050061 Sample ID: 86-S1-114 Lab Samp ID: D061-05 Lab File ID: RD9385	Date Date Date Date Dilut Matri N Moli Instri	Collected: Received: Extracted: Analyzed: ion Factor: x sture ument ID:	WATER NA T-005
SURROGATE PARAMETERS % RECOVERY QC LIMIT 1,2-DICHLOROETHANE-04 121 62-139 TOLUBEE-08 102 75-125 BROMOFLUOROBENZENE 99 75-125 R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blank J : Value between R.L. and MDL D : Value from dilution analysis	1.1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRI HETHYLBENZENE 1.2.51CHLOROBENZENE 1.2.51CHLOROBENZENE 1.2.51CHLOROBENZENE 1.2.51CHLOROBENZENE 1.3.51CHLOROPANE 1.3.5-TRIMETHYLBENZENE 1.3.51CHLOROPROPANE 1.4.51CHLOROBENZENE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROBENZENE 2.2-DICHLOROBENZENE 2.2-DICHLOROBENZENE 2.2-DICHLOROBENZENE 2.3-DICHLOROMETHANE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE BROMOGENE CHLOROBENZENE CHLOROFORM CHLOROBENZENE CHLOROFORM CHLOROBENZENE CHLOROFORM CHLOROBENZENE DIBROMOGENE DIBROMOGENE BROMOGENE	(91.1)	1 1 1 1 1 1 1 1 1 1	> เพิ่มมีเห็นที่สังเล่า ก็เกิด เล่า ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็ก็



SW 50308/82608 VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050661 Sample ID: 86-S1-115 Lub Samp ID: D061-06 Lub File ID: R09386 Ext Btch ID: V005032 Calib. Ref.: RDQ221	Matri % Moi	Collected: Received: Extracted: Analyzed: ion Factor: X : Sture :	WATER NA
PARAMETERS 1,1,1-ZTETRACHLORGETHANE 1,1,1-TRICHLORGETHANE 1,1,2-TRICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,1-DICHLORGETHANE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-DICHLORGENZENE 1,2-DICHLORGENZENE 1,2-DICHLORGENZENE 1,2-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 2-DICHLOROPROPANE 1,3-DICHLORGENZENE 2-DICHLOROPROPANE 2-BUTANONE 3-BOMOODICHLOROMETHANE BROMOODICHLOROMETHANE BROMOODICHLOROMETHANE BROMOOFORM BROMOODICHLOROMETHANE CARBON TETRACHLORIDE CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROPROPENE TRICHLOROFLUGUENE SCC-BUTYLBENZENE MAPHTHALENE O-XYLENE P-ISOPROPYL BENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE O-XYLENE P-ISOPROPYL TOLURNE SCC-BUTYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-PROPYLBENZENE TRICHLOROFLOROMETHANE UNITERBALENE N-BUTANOMETHANE UNITERBALENE N-	RESULTS (J9/L) NDD NDD NDD NDD NDD NDD NDD NDD NDD NDD	RL) 5575555555555555555555555555555555555	H) RANGINARANARANARANARANARANARANARANARANARANAR



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D061

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 04/13/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample D061-02 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



Client : TEIRA TECH FW INC. Project : MFA SIIE 1, CTO 86 Batch No. : 050061 Sample ID: 86-51-110 Lab Samp ID: D061-02 Lab File ID: RDH116 Ext Btch ID: SV0016W Calib. Ref.: RCH507	Date Date Date Date Dilut Matri % Moi Instr	Collected: Received: Extracted: Analyzed: ion Factor: x : sture ument ID:	04/11/05 04/13/05 04/16/05 13:00 04/19/05 15:49 .95 WATER NA 1-041
PARAMETERS 2.4.5-TRICHLOROPHENGL 2.4.6-TRICHLOROPHENGL 2.4.6-TRICHLOROPHENGL 2.4.0-DICHLOROPHENGL 2.4.0-DIMITROPHENGL 2.4.0-DIMITROPHENGL 2.4.0-DIMITROPHENGL 2.5.0-DIMITROTOLUEME 2.6-DIMITROTOLUEME 2.6-DIMITROTOLUEME 2.CHLOROPHENGL 2.METHYLPHENGL 2.MITROPHENGL 3.31-OICHLOROBENZIDINE 3.31-OICHLOROBENZIDINE 3.31-OICHLOROBENZIDINE 3.31-TROANILINE 4.6-DIMITRO-2-METHYLPHENGL 4.5-BROMOPHENYL-PHENYL ETHER 4.6-DIMITRO-2-METHYLPHENGL 4.CHLOROAMILINE 4.CHLOROAMILINE 4.CHLOROAMILINE 4.MITROPHENGL 4.MITROPHENGL 4.MITROPHENGL 4.MITROPHENGL 4.MITROPHENGL 6.DIMITRO-2-METHYLPHENGL 4.MITROPHENGL 6.DIMITRO-2-METHYLPHENGL 6.DIMITRO-2-METHYLPHENGL 6.DIMITRO-2-METHYLPHENGL 6.CHLOROPHENYL-PHENGL 6.CHLOROPHENYL-PHENGL 6.CHLOROPHENYL-PHENGL 6.DIMITRO-2-METHYLEME ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B) H. 1)PERYLENE BENZO(B) H. 1)PERYLENE BENZO(B) H. 1)PERYLENE BENZO(B) H. 1)PERYLENE BENZO(B) H. 1)PERYLENE BENZO(B) H. 1)PERYLENE DIENESCHENCH DIENESCHENE DIENESCHENE DIENESCHENE DIENESCHENE DIENESCHENE BENZO(B) HALATE DIENESCHENE BENZO(B) HALATE DIENESCHENE BENZO(B) HALATE BIGLECHLOROPHENGL DIENESCHENE PENTACHLOROPHENGL PHENACHTHALATE PHENGL PYRENE 1.1-BIPHENYL ACETOPHENGNE ATRAZINE BENZALDEHENYL BENZALDEHENYL ACETOPHENGNE ATRAZINE BENZALDEHENGL ATRAZINE BENZALDE	RESULT;	### POOR POO	
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUGROBIPHENYL 2-FLUGROBIPHENYL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	2 RECOVERY 62 58 63 63 76	QC LIMI 25-134 25-1122555 25-1225 25-126 42-126	<u> </u>

Rt: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



SEMI VOLATILE ORG			
Client : TETRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No. : 05D061 Sample ID: 86-51-112 Lab Sampl ID: D061-03 Lab File ID: RDH119 Ext Btch ID: SVD016W Calib. Ref.: RCH307	Date C Date Date E Date E Date C Ilutic Matrix % Moist Instrum	Collected: 04/ Received: 04/ Extracted: 04/ Extracted: 04/ Extracted: 04/ Extracted: WA WA Extracted: NA ment ID: 1-	11/05 13/05 13/05 13/05 13/05 17:12 18 18 18 18 18 18 18 18 18 18 18 18 18
	RESULTS (ug/L)	Ðί	MDL (ug/L)
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROPHENOL 2.5-MITROPHENOL 2.5-MITROPHENOL 2.5-MITROPHENOL 2.5-MITROPHENOL 3.5-1-DICHLOROBENZIDINE 3.5-ITROPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITROPHENOL 4.5-DIMITRO-2-METHYLPHENOL 5.5-DIMITRO-2-METHYLPHENOL 5.5-DIMITRO-2-METHYLPHENOL 6.5-DIMITRO-1-M			77777467777767777777777777777777777777
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENOL 1-FLUOROPHENOL NITROBENZENE-05 PHENOL-05 TERPHENYL-014	% RECOVERY 63 60 55 60 72	QC LIMIT 25 - 134 43 - 125 25 - 125 325 - 125 42 - 126	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenot (2): Cannot be separated from Diphenylamine



SEMI VOLATILE ORGANICS BY GC/MS					
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 0500c1 Sample : 86-S1-113 Lab Samp IB: 0061-04 Lab Fite ID: RDH120 Ext Btch ID: SW016W Calib, Ref: RCH307	% Mois	ture : N/	061		
PARAMETERS 2.4.7-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROSOLUENE); U(); U(); U(); U(); U(); U(); U(); U(RL) 4444999444494444444444444444444444444	1) - 7777446777767474677777777777777777777			

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



SEMI VOLATILE ORGANICS BY GC/MS				
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No. 050061 Sample ID: 86-S1-114 Lab Samp ID: 0061-05 Lab File ID: RM121 Ext Btch ID: SV0016W Calib. Ref.: RCH307	Date Date Date Date Diluti Matrix % Mois Instru	Collected: 04 Received: 04 Extracted: 04 Analyzed: 07 on Factor: 07 ture: M/ ment ID: 17		
Ext Btch ID: SV0016W Calib. Ref.: Rcf307 PARAMETERS	* Motivate	ID RL) 7777799977779977777777777777777777777	U) 999977899908899978999999999999999999999	
CARBAZOLE SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2*FLUOROBIPHENYL 2*FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 PL: Peopoting Limit	ND % RECOVERY 71 67 64 68 67 84	9.7 QC LIMIT 25-134 43-125 25-125 25-125 325-125 42-126	4.7	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

Client : TETRA IECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No.: 050061 Sample ID: 86-51-115 Lab Samp ID: 0061-06 Lab File ID: RDH122 Ext Btch ID: 870016W Calib. Ref.: RCH307	Date E Date Dilutio Matrix % Moist	Collected: 04/12 Received: 04/13 Extracted: 04/16 Analyzed: 04/19 on Factor: .94 WATER HA Hent ID: T-041	705 705 705 705 705 705 705 705 705
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4DINETRICHLOROPHENOL 2.4DINETRICHLOROPHENOL 2.4DINETROPHENOL 2.4DINITROPHENOL 2.4DINITROPHENOL 2.4DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 2.5DINITROPHENOL 3.3-1DICHLOROBENZIDINE 3.5DINITRO-2.5-METHYLPHENOL 4.5-DINITRO-2.5-METHYLPHENOL 4.5-DINITROPHENOL 4.5-DINITRO-2.5-METHYLPHENOL 4.5-DINITROPHENOL 4.5-DINITROSODIPHENOL 4	RESULT. SULT. ADD NO DE NO D	RL) - 444499444499444444444444444444444444	MDL) - 7.77.7446777.74677777777777777777777777
RL: Reporting Limit	of the same is		

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D061

SW3520C/8081A PESTICIDES

Five (5) water samples were received on 04/13/05 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample D061-02 was spiked. All recoveries were within QC limits.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



Client : TETRA TECH FW, INC. Date Collected: 04/11/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/13/05
Batch No. : 05D061 Date Extracted: 04/14/05 13:00
Sample ID: 86-51-110 Date Analyzed: 04/18/05 17:20
Lab Samp ID: D061-02 Dilution Factor: .94
Lab File ID: SD18014A Matrix : WATER
Ext Btch ID: CPD012W % Moisture : NA
Calib. Ref.: SD18003A Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
w	~		
ALPHA-BHC	(ND) ND	.047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) ND	.047	.0094 .0094
HEPTACHLOR	(D) OH	047	.0094 .0094
DELTA-BHC	(ND) ND	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	.028 .028
4,41-DDE	(ND) ND	.094	.028 .028
DIELDRIN	(ND) ND	.19	.094 .094
ENDRIN	(ND) NO	.094	.019 .019
4,4*-DDD	(ND) ND	.094	.028 .028
ENDOSULFAN II	(ND) ND	.094	.019 .019
4,4°-DDT	(ND) ND	.094	.019 .019
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	(ND) ND	. 094	.019 .019
METHOXYCHLOR	(ND) ND	.47	.094 .094
TOXAPHENE	(ND) ND	2.8	1,2 1,2
SURROGATE PARAMETERS	% RECOVERY	GE LIMIT	
·	****		
TETRACHLORO-M-XYLENE	80 (89)	30-130	
DECACHLOROBIPHENYL	(89) 87	30-130	

RL: Reporting Limit

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Client : TETRA TECH FW, INC. Date Collected: 04/11/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/13/05
Batch No. : 05D061 ... Date Extracted: 04/14/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 18:35 Dilution Factor: .94 Sample ID: 86-S1-112 Lab Samp ID: D061-03 Matrix : WATER % Moisture : NA Lab File ID: SD18017A Ext Btch ID: CPD012W Instrument ID : GCT008 Calib. Ref.: SD18003A

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
****		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) (ND	.047 .0094 .0094
HEPTACHLOR	(เม)	047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .014J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(D) (D)	.047 .0094 .0094
ALPHA-CHLORDANE	CN (CDN)	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,44-DDE	(ND) ND	.028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4:-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4.4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) NO	.094 .019 -019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
~~~-~~~~~~~~	~ _ ~ ~ ~ ~ ~ ~ ~ ~	
TETRACHLORO-M-XYLENE	54 (68)	30-130
DECACHLOROBIPHENYL	(85) 84	30-130

RL : Reporting limit

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Ctient : TETRA TECH FW, INC. Date Collected: 04/12/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/13/05
Batch No. : 05D061 Date Extracted: 04/14/05 13:00
Sample ID: 86-S1-113 Date Analyzed: 04/18/05 19:01
Lab Samp ID: D061-04 Dilution Factor: 1.06
Lab File ID: SD18018A Matrix : WATER
Ext Btch ID: CPD012W % Moisture : NA
Calib. Ref.: SD18003A Instrument ID : GCT008

XX.2			
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	
ALPHA-BHC	(ND) ND	.053	
GAMMA-BHC (LINDANE)	(ND) NO	.053	
BETA-BHC	(ND) ND	.053	
HEPTACHLOR	(ND) ND	.053	
DELTA-BHC	(ND) ND	.053	•
ALDRIN	(ND) ND	.053	
HEPTACHLOR EPOXIDE	(ND) ND	.053	
GAMMA - CHLORDANE	(ND) ND	.053	.011 .011
ALPHA-CHLORDANE	(ND) ND	.053	.011 .011
ENDOSULFAN I	(ND) ND	.053	.032 .032
4,4'-DDE	(ND) ND	.11	1
DIELDRIN	(ND) ND	.21	.11 .11
ENDRIN	(ND) ND	.11	
4,4'-DDD	(ND) ND	.11	.032 .032
ENDOSULFAN II	(ND) ND	.11	.021 .021
4.4*-DDT	(ND) ND	.11	
ENDRIN ALDEHYDE	(ND) ND	.11	
ENDOSULFAN SULFATE	(ND) ND	* 4	
ENDRIN KETONE	(ND) ND	,11	.021 .021
METHOXYCHLOR	(ND) ND		.11 .11
TOXAPHENE	(ND) ND	3.2	1.3 1.3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	57 (63)	30-130	
DECACHLOROBIPHENYL	(84)   83	30-130	

RL: Reporting limit

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#### sw3520c/8081A PESTICIDES

X5034XFEERRAHINDERER04328746859XBEERG58EERG5801#F8054551#BB64#68054FFR14594F44649F Client : TETRA TECH FW, INC. Date Collected: 04/12/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/13/05
Batch No. : 05D061 ... Date Extracted: 04/14/05
Sample ID: 86-S1-114 Date Analyzed: 04/18/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 19:26 Dilution Factor: .94 Lab Samp ID: D061-05 Matrix : WATER % Moisture : NA Lab File ID: SD18019A Ext Btch ID: CPD012W Instrument ID : GCT008 Calib. Ref.: SD18003A ACCUPATION OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF

PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L)
ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC HEPTACHLOR DELTA-BHC ALDRIN HEPTACHLOR EPOXIDE GAMMA-CHLORDANE ALPHA-CHLORDANE ENDOSULFAN I 4,4'-DDE DIELDRIN ENDRIN 4,4'-DDD ENDOSULFAN II 4,4'-DDT ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN KETONE	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.047 .0094 .0094 .0094 .047 .0094 .0094 .0094 .0094 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .028 .028 .094 .028 .028 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .019 .019 .019 .019 .019
METHOXYCHLOR TOXAPHENE SURROGATE PARAMETERS	(ND)  ND (ND)  ND % RECOVERY	2.8 1.2 1.2 QC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	78 (87) (88) 87	30-130 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column ( ) included the reported column



Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D061 Sampte ID: 86-S1-115 Lab Samp ID: D061-06 Lab File ID: SD18020A Ext Btch ID: CPD012W Calib. Ref.: SD18003A		Date Collected: Date Received; Date Extracted: Date Analyzed: Dilution Factor: Matrix : % Moisture : Instrument ID :	04/13/05 04/14/05 13:00 04/14/05 19:51 .94 WATER
PARAMETERS  ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC	RESULTS (Ug/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L)  .047 .047 .047	MDL (ug/L) .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094

PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PARAMETERS  ALPHA-BHC  GAMMA-BHC (LINDANE)  BETA-BHC  HEPTACHLOR  DELTA-BHC  ALDRIN  HEPTACHLOR EPOXIDE  GAMMA-CHLORDANE  ALPHA-CHLORDANE  ENDOSULFAN I  4,4'-DDE  DIELDRIN  ENDRIN  4,4'-DDD  ENDOSULFAN II  4,4'-DDT  ENDOSULFAN II  4,4'-DDT  ENDOSULFAN SULFATE  ENDOSULFAN SULFATE  ENDOSULFAN SULFATE  ENDOSULFAN SULFATE  ENDRIN KETONE  METHOXYCKLOR	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.047 .047 .047 .047 .047 .047 .047 .047	.0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .0094   .0094 .019   .019 .019   .019
SURROGATE PARAMETERS	% RECOVERY 65 (67)	QC LIMI  30-13	•
TETRACULODO-M-XVI FNF	03 ( 64 )		

TOXAPHENE	(ND) ND	£.00
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY  65 (67) (88) 84	QC LIMIT 30-130 30-130

RL: Reporting limit
Left of | is related to first column; Right of | related to second column
( ) included the reported column



# CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D061

### SW3520C/8082 PCBs

Five (5) water samples were received on 04/13/05 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

# 1. Holding Time

Analytical holding time was met.

# 2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

# 3. Method Blank

Method blank was free of contamination at the reporting limit.

# 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

# 6. Matrix Spike/Matrix Spike Duplicate

Sample D061-02 was spiked. All recoveries were within QC limit.

# 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



#### sw3520C/8082 PCBs

Date Collected: 04/11/05 Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050061 Date Received: 04/13/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 17:20 Sample ID: 86-S1-110 Dilution Factor: .94 Lab Samp ID: D061-02 Matrix : WATER Lab File ID: SD18014A % Moisture : NA Instrument ID : GCT008 Ext Btch ID: CPD012W 

E CHECK TO THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE			
PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254	RESULTS (ug/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L) .94 .94 .94 .94 .94	MDL (ug/L) -24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .
PCB-1260 SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	(ND)   ND % RECOVERY (72)   83 (98)   97	90 LIMIT 30-130 30-130	š

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^( ) included the reported column

^{*} Out side of QC Limit



### SW3520C/8082 PCBs

			:お甲斐は本事が由中の口の出
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05D061 Sample: ID: 86-S1-112 Lab Samp ID: D061-03 Lab File ID: SD18017A Ext 8tch ID: CPD012W Calib. Ref.: SD18006A	Date Date Date Dil Mat % M	collected: 0 Received: 0 Received: 0 Extracted: 0 Analyzed: 0 Ition Factor: rix	04/13/05 04/14/05 13:00 04/18/05 18:35 .94 WATER
PARAMETERS  PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	RESULTS (UG/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L) .94 .94 .94 .94 .94	.24   .24 .24   .24 .24   .24 .24   .24 .24   .24 .24   .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (54)  63 (93)  93	9C LIMI 30-13 30-13	0

RL: Reporting Limit
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( ) included the reported column
* Out side of QC Limit



#### sw3520C/8082 PCBs

	<b>是我是我没有要求你是我们就是我们的人们还是是我们的,我们就是我们的人们是是我们的人们是是我们的人们是是我们的人们是是我们是我们们是我们们们是我们</b>
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05D061 Sample ID: 86-S1-113 Lab Samp ID: D061-04 Lab File ID: SD18018A Ext Btch ID: CPD012W Calib. Ref.: SD18006A	Date Collected: 04/12/05 Date Received: 04/13/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 19:01 Dilution Factor: 1.06 Matrix : WATER % Moisture : NA Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)  (ND) ND	RL MDL (ug/L) (ug/L) 1.1 .26 .26
PCB-1070 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCE-1260	DN ( CN) DN ( CN) DN ( CN) DN ( CN) DN ( CN) DN ( CN) DN ( CN)	1.1 .26 .26 1.1 .26 .26 1.1 .26 .26 1.1 .26 .26 1.1 .26 .26 1.1 .26 .26
SURROGATE PARAMETERS	% RECOVERY	OC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	(52)  60 (94)  91	30-130 30-130

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column

( ) included the reported column

* Out side of QC Limit



### SW3520C/8082 PCBs

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05D061 Sample ID: 86-S1-114 Lab Samp ID: D061-05 Lab File ID: SD18019A Ext Btch ID: CPD012W Calib. Ref.: SD18006A		Date Collected: 04/12/05 Date Received: 04/13/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 19:26 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254  PCB-1260	RESULTS (ug/L) (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND	RL MDL (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (ug/L) (u
SURROGATE PARAMETERS	% RECOVERY	ac LIMIT 30-130

DECACHLOROBIPHENYL

TETRACHLORO-M-XYLENE

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

( ) included the reported column

* Out side of QC Limit

(75) | 83 (98) | 96

30-130



#### SW3520C/8082 PCBs

Ctient : TETRA TECH FW, INC. Date Collected: 04/12/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/13/05
Batch No. : 05D061 Date Extracted: 04/14/05 13:00
Sample ID: 86-S1-115 Date Analyzed: 04/18/05 19:51
Lab Samp ID: D061-06 Dilution Factor: .94
Lab File ID: SD18020A Matrix : WATER
Ext Btch ID: CPD012W
Calib. Ref.: SD18006A Instrument ID : GCT008

PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254  PCB-1254	RESULTS (Ug/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.94 .94 .94 .94 .94	MDL (ug/L) -24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .24   .
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (55)   67 (97)   93	30-130 30-130	

Ri: Reporting Limit Left of  $\mid$  is related to first column; Right of  $\mid$  related to second column ( ) included the reported column

^{*} Out side of QC Limit



#### **CASE NARRATIVE**

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D061

# METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Five (5) water samples were received on 04/13/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

# 1. Holding Time

Analysis met holding time criteria.

#### 2. Method Blank

Method blank was free of contamination at the reporting limit.

# 3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

# 4. Serial Dilution / Post-Analytical Spike

Sample D061-02 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

# 5. Matrix Spike/Matrix Spike Duplicate

Sample D061-02 was spiked. All recoveries were within QC limit.

# 6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were analyzed at DF 20 due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

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RL: Reporting Limit

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

Collection Date:

April 11 through April 12, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D061

# Sample Identification

86-S1-122

86-S1-110

86-S1-112

86-S1-113

86-S1-114**

86-S1-115

86-S1-110MS

86-S1-110MSD

^{**}Indicates sample underwent EPA Level IV review

# Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

# III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for all individual compounds.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method and validation criteria.

# IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 20.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

# V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Internal Standards

All internal standard areas and retention times were within QC limits.

# XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

# XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XV. Overall Assessment

Data flags have been summarized at the end of the report.

# XVI. Field Duplicates

Samples 86-S1-113 and 86-S1-115 were identified as field duplicates. No volatiles were detected in any of the samples.

# XVII. Field Blanks

Sample 86-S1-122 was identified as a trip blank. No volatile contaminants were found in this blank.

# Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: April 11 through April 12, 2005

LDC Report Date: May 25, 2005

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D061

# Sample Identification

86-S1-110

86-S1-112

86-S1-113

86-S1-114**

86-S1-115

86-S1-110MS

86-S1-110MSD

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination  $(r^2)$  was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

# IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

# V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

# XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

# XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags have been summarized at the end of the report.

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

**Collection Date:** 

April 11 through April 12, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D061

## Sample Identification

86-S1-110

86-S1-112

86-S1-113

86-S1-114**

86-S1-115

86-S1-110MS

86-S1-110MSD

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
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- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

## III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

# IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Pesticide Cleanup Checks

# a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

## b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

# XIV. Field Duplicates

Samples 86-S1-113 and 86-S1-114** were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

# XV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Airfield, MFA Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 05D061

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

**Collection Date:** 

April 11 through April 12, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D061

# Sample Identification

86-S1-110

86-S1-112

86-S1-113

86-S1-114**

86-S1-115

86-S1-110MS

86-S1-110MSD

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

#### III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

# IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Pesticide Cleanup Checks

#### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

#### XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

#### XIV. Field Duplicates

Samples 86-S1-113 and 86-S1-114** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

# Laboratory Data Constituents, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, Site 1, CTO 86

**Collection Date:** 

April 11 through April 12, 2005

LDC Report Date:

May 23, 2005

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc./Columbia Analytical Services,

Inc.

Sample Delivery Group (SDG): 05D061/K2502714

### Sample Identification

86-S1-110

86-S1-112

86-S1-113

86-S1-114**

86-S1-115

86-S1-110MS

86-S1-110MSD

86-S1-110DUP

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 and EPA Method 200.8 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

#### III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Beryllium Copper Nickel Selenium Thallium Zinc	0.00009 ug/L 0.0010 ug/L 0.031 ug/L 0.74 ug/L 0.00027 ug/L 0.0006 ug/L	All samples in SDG 05D061/K2502714
ICB/CCB	Antimony	0.012 ug/L	86-S1-110
ICB/CCB	Beryllium Cadmium Cobalt Nickel Selenium Silver Thallium	0.02 ug/L 0.02 ug/L 0.050 ug/L 0.495 ug/L 0.28 ug/L 0.01 ug/L 0.05 ug/L	86-S1-110 86-S1-112
ICB/CCB	Antimony	0.014 ug/L	86-S1-112 86-S1-113 86-S1-114** 86-S1-115

Maximum Concentration	Associated Samples
0,097 ug/L 0,00990 ug/L	86-\$1-113 86-\$1-114**
0.207 ug/L	86-S1-115
0.0205 ug/L 0.022 ug/L	
0,0150 ug/L 0,02500 ug/L	
	0.097 ug/L 0.00990 ug/L 0.0108 ug/L 0.207 ug/L 0.0138 ug/L 0.0205 ug/L 0.022 ug/L 0.0150 ug/L

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater ( >5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-\$1-110	Antimony	0.382 ug/L	0.382U ug/L
	Beryllium	0.00386 ug/L	0.00386U ug/L
	Selenium	0.48 ug/L	0.48U ug/L
86-S1-112	Antimony	0,296 ug/L	0.296U ug/L
	Beryllium	0.00479 ug/L	0.00479U ug/L
	Selenium	0.68 ug/L	0.68U ug/L
	Thallium	0.00288 ug/L	0.00288U ug/L
86-S1-113	Antimony	0.300 ug/L	0.300U ug/L
	Beryllium	0.00216 ug/L	0.00216U ug/L
	Selenium	0.46 ug/L	0.46U ug/L
	Silver	0.0027 ug/L	0.0027U ug/L
86-S1-114**	Antimony	0.0306 ug/L	0.0306U ug/L
	Beryllium	0.00121 ug/L	0.00121U ug/L
	Selenium	0.52 ug/L	0.52U ug/L
	Silver	0.0029 ug/L	0.0029U ug/l
86-S1-115	Antimony	0.414 ug/L	0.414U ug/L
	Selenium	0.84 ug/L	0.84U ug/L
	Silver	0.0017 ug/L	0.0017U ug/L

# IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Arsenic Beryllium Cadmium Chromium Cobalt Copper Nickel Silver Thallium Zinc	0.097 ug/L 0.00990 ug/L 0.0108 ug/L 0.207 ug/L 0.0138 ug/L 0.0205 ug/L 0.022 ug/L 0.0150 ug/L 0.02500 ug/L 0.035 ug/L	86-S1-113 86-S1-114** 86-S1-115

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater ( >5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-\$1-110	Antimony	0.382 ug/L	0.382U ug/L
	Beryllium	0.00386 ug/L	0.00386U ug/L
	Selenium	0.48 ug/L	0.48U ug/L
86-S1-112	Antimony	0.296 ug/L	0.296U ug/L
	Beryllium	0.00479 ug/L	0.00479U ug/L
	Selenium	0.68 ug/L	0.68U ug/L
	Thallium	0.00288 ug/L	0.00288U ug/L
86-\$1-113	Antimony	0.300 ug/L	0.300U ug/L
	Beryllium	0.00216 ug/L	0.00216U ug/L
	Selenium	0.46 ug/L	0.46U ug/L
	Silver	0.0027 ug/L	0.0027U ug/L
86-S1-114**	Antimony	0,306 ug/L	0.306U ug/L
	Beryllium	0,00121 ug/L	0.00121U ug/L
	Selenium	0,52 ug/L	0.52U ug/L
	Silver	0,0029 ug/L	0.0029U ug/L
86-\$1-115	Antimony	0.414 ug/L	0.414U ug/L
	Scionium	0.84 ug/L	0.84U ug/L
	Silver	0.0017 ug/L	0.0017U ug/L

# IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

## V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-110MS (All samples in SDG 05D061/K2502714)	Arsenic Beryllium Copper	56 (75-125) 69 (75-125) 73 (75-125)	J (all detects) UJ (all non-detects)	Α

### VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

### VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits for samples on which a EPA Level IV review was performed with the following exceptions:

Sample	internal Standard	%R (Limits)	Analyte	Flag	AorP
86-S1-114**	Indium-115	160.3 (60-125)	Antimony	J (all detects) UJ (all non-detects)	Р
			Barium	J (all detects) UJ (all non-detects)	

Raw data were not evaluated for the samples reviewed by Level III criteria.

#### IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

## X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

## XI. Sample Result Verification

All sample result verification met validation criteria with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG 05D061/K2502714	Antimony	Laboratory method detection limit reported at 0.12 ug/L.	MDL should be reported at 0.05 ug/L per the QAPP.	None	P
All samples in SDG 05D061/K2502714	Barium	Laboratory method detection limit reported at 0.60 ug/L.	MDL should be reported at 0.05 ug/L per the QAPP.	None	Р

Raw data were not evaluated for samples reviewed by Level III criteria.

#### XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

## XIII. Field Duplicates

Samples 86-S1-113 and 86-S1-114** were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	ation (ug/L)	
Compound	86-\$1-113	86-\$1-114**	RPD
Antimony	0.300	0.306	2
Arsenic	1.550	1.630	5
Barium	74.3	73.4	1
Beryllium	0.00216	0.00121	56
Cadmium	0.2700	0.2940	9
Chromium	0.375	0.283	28
Cobalt	4.6700	6.3700	31
Copper	0.5280	0.5730	8
Lead	0.012	0.013	8

	Concentr	ation (ug/L)	
Compound	,	86-S1-114**	RPD
Nickel	87.9	99.0	12
Selenium	0.46	0.52	12
Silver	0,0027	0.0029	7
Thallium	0.02780	0.02680	4
Zinc	13.1	13.2	1

# XIV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Metals - Data Qualification Summary - SDG 05D061/K2502714

SDG	Sample	Analyte	Flag	A or P	Reason
05D061/ K2502714	86-S1-110 86-S1-112 86-S1-113 86-S1-114** 66-S1-115	Arsenic Beryllium Copper	J (all detects) UJ (all non-detects)	A	Matríx spike analysis (%R)
05D061/ K2502714	86-S1-114**	Antimony Barium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	Р	Internal standards (%R)
05D061/ K2502714	86-S1-110 86-S1-112 86-S1-113 86-S1-114** 86-S1-115	Antimony Barium	None None	Р	Sample result verification

# Moffett Air Field, Site 1, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG 05D061/K2502714

SDG	Sample	Analyte	Modified Final Concentration	A or P
05D061/ K2502714	86-S1-110	Antimony Beryllium Selenium	0,382U ug/L 0,00386U ug/L 0,48U ug/L	A
05D061/ K2502714	86-S1-112	Antimony Beryllium Selenium Thallium	0.296U ug/L 0.00479U ug/L 0.68U ug/L 0.00288U ug/L	A
05D061/ K2502714	86-S1-113	Antimony Beryllium Selenium Silver	0.300U ug/L 0.00216U ug/L 0.46U ug/L 0.0027U ug/L	A
05D061/ K2502714	86-S1-114**	Antimony Beryllium Selenium Silver	0.306U ug/L 0.00121U ug/L 0.52U ug/L 0.0029U ug/L	A
05D061/ K2502714	86-S1-115	Antimony Selenium Silver	0,414U ug/L 0,84U ug/L 0,0017U ug/L	A

#### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

### IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Pesticide Cleanup Checks

#### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

#### XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

#### XIV. Field Duplicates

Samples 86-S1-113 and 86-S1-114** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

# CHAIN-OF-CUSTODY RECORD

TETRATECH
1230 Columbia Street, Suite 500
Sen Diego, CA 92101 (619) 234-8696

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White - Laboratory; Pink - Laboratory; Canary - Project File; Manila - Data Management



1835 W. 205th Street Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 05-09-2005 EMAX Batch No.: 05D053

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 04/12/05. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
86-\$1-121 86-\$1-108	D053-01 D053-02	04/11/05 04/11/05	WATER WATER	VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) DISSOLVED METALS MERCURY DISSOLVED
86-\$1-109	D053-03	04/11/05	WATER	SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) DISSOLVED METALS MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS

Note: Disselved Metals was subcontracted to Columbia Analytical Services, Inc.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director

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# CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D053

## SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Three (3) water samples were received on 04/12/05 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846,  $3^{\rm rd}$  ed.

## 1. Holding Time

Analytical holding time was met.

# 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

### 3. Method Blank

Method blank was free of contamination at the reporting limit.

## Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

## 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



# SW 50308/82608 VOLATILE ORGANICS BY GC/MS

FULKTILE ORGI	ANICS BY BUYES		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050053 Sample ID: 86-S1-121 Lab Samp ID: D053-01 Lab File ID: RDC332 Ext Btch ID: V067025 Calib. Ref.: RCC892	Date Date Date Date Diluti Matrix % Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture:	04/11/05 04/12/05 04/15/05 04:11 04/15/05 04:11 1 WATER NA
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPANE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DICHOROBENZENE 1,2-DICHOROBENZENE 1,2-DICHOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROBENZENE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANONE 2-BUTANONE 2-HEXANONE 4-CHLOROTOLUENE 4-KEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BENZENE BROMOEHLOROMETHANE BROMODICHLOROMETHANE BROMOCHANA BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROPOPNE DIBROMOCHANDE CHLOROPOPNE DIBROMOCHANDE CIS-1,3-DICHLOROPROPENE DIBROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE CIS-1,3-DICHLOROPROPENE DIBROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE CIS-1,3-DICHLOROPROPENE DIBROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE CIS-1,3-DICHLOROPROPENE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE CHLOROPICHURE CIS-1,3-DICHLOROPROPENE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE BROMOCHANDE B			้างกับช่างหน้ามีการ การกระบาร การกระบาร การกระบาร การกระบาร การกระบาร การกระบาร การกระบาร การกระบาร การกระบาร
TRICHLOROFLUOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS	ND RD ≈ ercoveey	***************************************	* <del>'</del>
1,2-DICHLOROETHANE-D4 TÖLUENE-D8 BROMOFLUOROSENZENE	% RECOVERY 99 109 110	62-139 75-125 75-125	
R Reporting limit			

R.L.: Reporting limit

: Out of QC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis



# SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

VOLATTLE URGAN			
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D053 Sample ID: 86-S1-108 Lab Samp ID: D053-02 Lab File ID: RDC333 Ext Btch JD: V067025 Calib. Ref.: RCC892	Date Date Date Dilut: Matri) % Mois	Collected: Received: Received: Extracted: Analyzed: ion Factor:	04/11/05 04/12/05 04/15/05 04/15/05 04/15/05 04:48 04/15/05 04:48
	RESURATION AND AND AND AND AND AND AND AND AND AN	RL); 55-15555555555555555555555555555555555	MDL. ANDANANANANANANANANANANANANANANANANANAN
1,2-DICHLOROETHANE-D4 TOLLENE-D8 BROMOFLUOROBENZENE R.L.: Reporting limit * Out of QC	116 104 165	62-139 75-125 75-125	

: Reporting timit
: Out of QC
: Exceeded calibration range
: Found in associated method blank
: Value between R.L. and MDL
: Value from dilution analysis

# SW 50308/82608 VOLATILE ORGANICS BY GC/MS

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Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 055053 Sample ID: 86-S1-109 Lab Samp ID: D053-03 Lab File ID: RDC334 Ext Btch ID: V067D25 Calib. Ref.: RCC892	Date Date Date Dilut: Matri) % Mois	Collected: Received: Extracted: Analyzed: ion Factor: t: ture:	04/11/05 04/12/05 04/15/05 05:25 04/15/05 05:25 1 WATER NA
		ment ID :	T-067
PARAMETERS	RESULTS (ug/L)	RŁ (ug/L)	MDL (ug/L)
1,1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRICHLOROBENZENE 1,2,4-TRICHLOROBENZENE 1,2-TETRACHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BROMODENZENE BROMODENZENE BROMODENZENE CHLOROFORM BROMOMETHANE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROFORM CHLOROMETHANE CIS-1,3-DICHLOROPENE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPENE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPENE DIBROMOMETHANE CIS-1,3-DICHLOROPENE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPENE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPENE CIS-1,3-DICHLOROPENE CIS-1,3-DICHLOROPENE CHENE CHETRACHLOROETHYLENE CHETRACHLOROETHYLENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHETRACHLOROPENE CHE	# 마 보	. พัชาะพันพันพันพันพันพันพันพันพันพันพันพันพันพ	ั้งเมนานารแบบเราะ เกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิด
SURROGATE PARAMETERS 1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	% RECOVERY 113 105	QC LIMIT 62-139 75-125 75-125	
R.L.: Reporting limit * : Out of QC	106	13-162	

Dut of QC

Exceeded calibration range

Found in associated method blank

Value between R.L. and Mbi

Value from dilution ahalysis



#### CASE NARRATIVE

CLIENT:

TETRA TECH EMI

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D053

#### SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Two (2) water samples were received on 04/12/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

## 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

### 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

#### 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



# SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

	MANIUS DI UL/A		
Client : TETRA TECH FW. INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05053 Sample   ID: 86-S1-108 Lab Samp   Ib: 053-02 Lab File   ID: 8H114 Ext Btch   ID: 8VD016W Calib. Ref.: RCH307	Date Date Date Date Dituti Matrix Mois Instru	Collected: Received: Extracted: Analyzed: on factor: ture ment ID	04/11/05 04/12/05 04/16/05 13:00 04/16/05 14:54 .94 WATER NA T-041
PARAMETERS  2, 4, 5-TRICHLOROPHENOL 2, 4-DICHLOROPHENOL 2, 4-DIMITROPHENOL 3, 31-DICHLOROSENZIDINE 3, 4-DIMITROPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL 4-METHYLPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL 6-MITROPHENOL 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYLAMINE 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROSODIPHENYL 6-MITROPHENTOPHENYL 6-MITROPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOPHENTOP	RESURTAL TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECOND TO SECO	R.L4444999444449944449944444444444444444	MDL 44446777767777467777777777777777777777
2-fluorophenol NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	63 56 49 54 54 74	255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1222 255-1-1-1-1-1222 255-1-1-1-1-1222 255-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



# SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No. : 05D053 Sample ID: 86-\$1-109 Lab Samp ID: D053-03 Lab File ID: R0H115 Ext Stch ID: SVD016W Calib. Ref.: RCH507	Oate Date Date Date Dilut Matri % Mois Instru	Collected: Received: Extracted: Analyzed: ion Factor: X Sture ument 10:	1 071
PARAMETERS	RESULTS (ug/L)	Ri. (ug/L)	MDL (ug/L)
PARAMETERS  2,4,5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2-CHLOROPHENOL 2-METHYLPHENOL 2-METHYLPHENOL 2-MITROPHENOL 2-MITROPHENOL 3,73-DICHLOROBENZIDINE 3-MITROPHENOL 4-DINITROP-Z-METHYLPHENOL 4-DINITROPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL ACENAPHTHENE ACENAPHTHENE ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHALATE CHHYSENE DI-N-EUTYLPHTHALATE DI-N-CCTYLPHTHALATE DI-N-CCTYLPHTHALATE DI-N-CTYLPHTHALATE	R/L) -44449994444994449944449944444499999999	); ;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;	
CARBAZOLE SURROGATE PARAMETERS	ND	OC I THIT	4.7
2,4,6-TRIBKOMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROBHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 74 71 67 69 73 87	25-134 25-125 25-125 25-125 25-125 25-125 25-125	
RL: Reporting Limit			

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



#### CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D053

#### SW3520C/8081A PESTICIDES

Two (2) water samples were received on 04/12/05 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

## 2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

#### 3. Method Slank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

#### 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

#### 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



#### SW3520C/8081A PESTICIDES

Client : TETRA TECH FW. INC. Date Collected: 04/11/05 : MFA, SITE 1, CTO 86 Project Date Received: 04/12/05 Batch No. : 050053 Date Extracted: 04/14/05 13:00 Sample ID: 86-S1-108 Date Analyzed: 04/18/05 15:38 Lab Samp ID: D053-02 Dilution Factor: .94 Lab File ID: SD18010A Matrix : WATER Ext Btch ID: CPD012W % Moisture : NA Calib. Ref.: SD18003A Instrument ID : GCT008 

RESULTS RL MDL PARAMETERS (ug/L) (ug/L) (ug/L)ALPHA-BHC (ND) ND .047 .0094 | .0094 GAMMA-BHC (LINDANE) .0094 .0094 (ND) ND .047 BETA-BHC (ND) ND .0094 .0094 .047 HEPTACHLOR (ND) ND .047 .0094 .0094 DELTA-BHC (ND) ND 047 .0094 .0094 ALDRIN GN (DN) .0094 .0094 .047 HEPTACHLOR EPOXIDE (ND) ND .047 .0094 .0094 GAMMA-CHLORDANE (ND) ND .047 .0094 .0094 ALPHA-CHLORDANE (ND) ND .047 .0094 .0094 ENDOSULFAN I (ND) ND .047 .028 .028 4,4'-DDE (ND) ND .094 .028 .028 DIELDRIN (ND) ND .19 .094 .094 ENDRIN (ND) ND .094 .019 .019 4,41-DDD .094 (ND) ND .028 .028 ENDOSULFAN II (ND) ND .094 .019 .019 4,41-DDT (ND) ND .094 .019 .019 ENDRIN ALDEHYDE .094 (ND) ND .019 .019 ENDOSULFAN SULFATE (ND) ND .094 .019 .019 ENDRIN KETONE (ND) ND .094 .019 .019 METHOXYCHLOR (ND) ND .47 .094 .094 (ND) ND 2.8 TOXAPHENE 1.2 1.2 SURROGATE PARAMETERS % RECOVERY QC LIMIT TETRACHLORO-M-XYLENE 80 (83) 30-130 DECACHLOROBIPHENYL (86) 86 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

( ) included the reported column



#### SW3520C/8081A PESTICIDES

	***************************************
Client : TETRA TECH FW, INC.	Date Collected: 04/11/05
Project : MFA, SITE 1, CTO 86	Date Received: 04/12/05
Batch No. : 05D053	Date Extracted: 04/14/05 13:00
Sample ID: 86-\$1-109	Date Analyzed: 04/18/05 16:04
Lab Samp ID: D053-03	Dilution Factor: .95
Lab File ID: SD18011A	Matrix : WATER
Ext Btch ID: CPD012W	% Moisture : NA
Calib. Ref.: SD18003A	Instrument ID : GCT008
	<b>建型在基型的过去式和过去式和过去分词 医克尔特氏性神经炎性神经炎性神经炎性神经炎性神经炎性神经炎性神经炎性神经炎性神经炎性神经炎</b>

PARAMETERS	RESULTS (Ug/L)	RL (Na (L)	MDL (ug/L)
CARAPL HING	(09/1.)	(ug/t)	(dg/t)
ALPHA-BHC	(ND) NO	.048	.0095 .0095
GAMMA-BHC (LINDANE)	(ND) ND	.048	
BETA-BHC	(ND) .095	.048	.0095 .0095
HEPTACHLOR	(ND) ND	.048	.0095 .0095
DELTA-BHC	(ND) ND	.048	.0095 .0095
ALDRIN	(ND) ND	.048	.0095 .0095
HEPTACHLOR EPOXIDE	(ND) ND	.048	.0095 .0095
GAMMA-CHLORDANE	(ND) ND	.048	.0095 .0095
ALPHA-CHLORDANE	(ND) ND	.048	.0095 .0095
ENDOSULFAN I	(ND) ND	.048	.028 .028
4,4*-DDE	(ND) ND	.095	.028 .028
DIELDRIN	(ND) ND	.19	.095 .095
ENDRIN	(ND) ND	. 095	.019 .019
4,4'-DDD	(MD) ND	. 095	.028 .028
ENDOSULFAN II	(ND) ND	.095	.019 .019
4,4?-DDT	(ND) ND	.095	.019 .019
ENDRIN ALDEHYDE	(ND) ND	.095	.019 .019
ENDOSULFAN SULFATE	(ND) ND	. 095	.019 .019
ENDRIN KETONE	(ND) ND	.095	.019 .019
METHOXYCHLOR	(ND) ND	.48	.095 .095
TOXAPHENE	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	GC LIMIT	
TETRACHLORO-M-XYLENE	71 [ (82)	30-130	
DECACHLOROBIPHENYL	(83) 82	30-130	

RL: Reporting limit Left of | is related to first column; Right of | related to second column ( ) included the reported column



#### **CASE NARRATIVE**

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D053

#### SW3520C/8082 PCBs

Two (2) water samples were received on 04/12/05 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

#### 2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

#### 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

#### 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



#### SW3520C/8082 PCBs

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Client : TETRA TECH FW, INC.	Date Collected: 04/11/05
Project : MFA, SITE 1, CTO 86	Date Received: 04/12/05
Batch No. : 050053	Date Extracted: 04/14/05 13:00
Sample ID: 86-S1-108	Date Analyzed: 04/18/05 15:38
Lab Samp 10: D053-02	Dilution Factor: .94
Lab File ID: SD18010A	Matrix : WATER
Ext Btch ID: CPD012W	% Moisture : NA
Calib. Ref.: SD18006A	Instrument ID : GCT008
======================================	institutent in : GC1008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
~ ~ ~ ~ ~		****	*****
PCB-1016	(ND) (ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PC8-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	,94	.24 .24
PC8-1254	(ND) ND	.94	.24 .24
PCB-1260	(DN) QN (DN)	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
*		******	
TETRACHLORO-M-XYLENE	(72) 79	30-130	
DECACHLOROBIPHENYL	(96) 96	30-130	

RE: Reporting Limit

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( ) included the reported column

* Out side of QC Limit



#### SW3520c/8082 PCBs

0x=maccxxu=xcabop=axxxxcabaabxqap=i=axopazcxa=i=i=axxpqaacxapxz=axabxpazxxxxxxxxx Client : TETRA TECH FW, INC. Date Collected: 04/11/05 Project : MFA, SITE 1, CTO 86 Batch No. : 05D053 Date Received: 04/12/05 Date Extracted: 04/14/05 13:00 Sample ID: 86-S1-109 Date Analyzed: 04/18/05 16:04 Lab Samp ID: D053-03 Dilution Factor: .95 Lab File ID: SD18011A Matrix : WATER Ext Bich ID: CPD012W % Moisture : NA Calib. Ref.: SD18006A Instrument ID : GCT008 

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
	103/2/	(48/1)	(99/1)
PCB-1016	(ND) ND	.95	.24 .24
PCB-1221	(ND) ND	.95	.24 .24
PCB-1232	(ND) ND	.95	.24 .24
PCB-1242	(ND) ND	, 95	.24 .24
PCB-1248	(ND) ND	.95	.24 .24
PCB-1254	(ND) ND	.95	.24 .24
PCB-1260	(ND) ND	-95	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
*******	********		
TETRACHLORO-M-XYLENE	(65) [75	30-130	
DECACHLOROBIPHENYL	(92) 91	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

^( ) included the reported column

^{*} Out side of QC Limit



### **CASE NARRATIVE**

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, STIE 1, CTO 86

SDG:

05D053

### METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Two (2) water samples were received on 04/12/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

### 1. Holding Time

Analysis met holding time criteria.

#### 2. Method Blank

Method blank was free of contamination at the reporting limit.

## 3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

#### 4. Serial Dilution / Post-Analytical Spike

Sample D061-02 from another SDG was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

### 5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were analyzed at DF 20 due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

: WATER : 11047	RL MDL Analysis Extraction Received	DATETIME	h t t ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	04/19/05	04/19/05	04/19/05	04/12/05	04/12/05
ent 10	Collection	DATETIME	* * * * * * * * * * * * * * * * * * * *	NA	AN AN	AX	04/11/05	04/11/05
Matríx Instru		PREP BATCH	1 1 1 1 1 1 1 1	HGD016W	HGD016W	HGD016W	HGD016W	HGD016W
		CAL REF		M470015008	M470015008	M470015008	M470015020	M470015020
	## ## ## ## ## ##	LFID		M470015010	M470015011	M470015012	M470015024	M470015025
	Extraction	DATETIME	* * * * * * * *	04/19/0515:30 M470015010	04/19/0515:30 M470015011	04/19/0515:30 N470015012	04/19/0515:30 M47D015024	04/19/0515:30 M470015025
	Analysis	DATETIME	* * * * * * * * *	04/20/0517:08	04/20/0517:10	04/20/0517:12	34/20/0517:41	04/20/0517:43
	WDL	(1/6n)		·			2	~
	RL	(1/8n) (1/8n)	1 1 2 1	Ŋ	~.	r,	Ţ	4
	100 100 100 100 100 100 100 100 100 100	DLF MOIST	; ; ;	4×	NA	MA	₩.	N.A.
	60 61 62 63 64 64		t + 4	*~	que	4	20	20
	RESULTS	(n8/r)	f	QN	4.95	16.4	S	9
: TETRA TECH FW, INC. : MFA, SITE 1, CTO 86 : 050053	EMAX RESULTS	SAMPLE 1D	* * * * * * * * * * * * * * * * * * * *	HCD016WS	HGDG16WL	HCD016WC	0053-02	50-53-03
Client Project Batch No. :		SAMPLE ID		MBLKTW	LUSIW	LCD 14	86-51-108	86-51-109

RL: Reporting Limit



#### COLUMBIA ANALYTICAL SERVICES, INC.

Client:

EMAX Laboratories, Inc.

Service Request No.:

K2502714

Project:

Moffett Site 1

Date Received:

4/14-15/05

Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

#### Sample Receipt

Twelve water samples were received for analysis at Columbia Analytical Services between 4/14-15/05. \No discrepancies were noted upon initial sample inspection. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

#### Metals

#### Sample Notes and Discussion:

Due to the high salinity of sample matrix, all samples required pre-treatment using reductive precipitation prior to analysis by ICP/MS EPA 200.8. Analysis of Selenium was performed by hydride EPA 7742 due to the saline sample matrix.

#### Matrix Spike Recovery Exceptions:

The matrix spike recoveries of Arsenic (56%), Beryllium (69%), and Copper (73%) for sample 86-S1-110 were outside the project specified control criteria of 75-125%. All the recoveries were within the CAS statistically derived limits for the reductive precipitation procedure (As 50-145%, Be 50-123% and Cu 50-120%). Based on the CAS statistical control limits, the recoveries observed are in the range expected for this procedure. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. No further corrective action was appropriate.

The control criteria for matrix spike recoveries of Cobalt and Nickel for sample 86-S1-110 are not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

No other anomalies associated with the analysis of these samples were observed.

Approved by Mi Ghel

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# Columbia Analytical Services

### DISSOLVED METALS

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## INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

WATER

Units: µG/L

Sample Name: 86-S1-108

Lab Code: K2502714-001 DISS

Basis: NA

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	<u>.</u> I 50	lυ	-
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.396		-
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	0.834	10	1
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	00000000000000000000000000000000000000	<u> </u>	N
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	73.3 0.00426	-	***
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05		B	N
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.4120	<u> </u>	<u> </u>
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	0.053	ar Samuelan kanada ka	<u> </u>
Copper	200.8	0.1110	0.0009		4/28/05	4/29/05	13.5	; 	<del> </del>
Lead	200.8	0.022	0.001		4/28/05		0.6020		N
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	0.127	-	-
Selenium	7742	1.00	0.30	$\frac{1}{2}$		4/29/05	22.5		
Silver	200.8	0.0222			4/21/05	5/2/05	0.46	В	
Thallium	***************************************		0.0006	1	4/28/05	4/29/05	0.1920		WOODERAND AND AND AND AND AND AND AND AND AND
Vanadium	200.8	0.02220		1 [	4/28/05	4/29/05	0.08090		heaters,,,,,,,,,,,
	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	υİ	***************************************
Zinc	200.8	0.556	0.002	1 1	4/28/05	4/29/05	3.270		**************************************

% Solids: 0.0



### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

Units: µG/L

Basis: NA

WATER

Sample Name: 86-S1-109

Lab Code: K2502714-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Ω
Aluminum	6010B	50	50	ı	4/21/05	4/25/05	50	U	<u> </u>
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.304	В	<del>†</del>
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	4.610	<u> </u>	IN
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	145		1
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00883	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0025	8 <del>54</del>	<u> </u>
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.515	***************************************	İ
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	1.9100		<u> </u>
Copper	200.8	0.1110	0.0009	1 1	4/28/05	4/29/05	0.2050	***************************************	IN
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.020	PORTINGUA MA	~
Nickel	200.8	0.222	0.002	1 1	4/28/05	4/29/05	6.230	-	<u> </u>
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.46	ъ	!
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0013	-	PARTY MANAGEMENT AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND ADDRESS OF THE PARTY AND
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00210	4 	
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0		
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	0.013	و چيمبرومستندن	DOWN COMMERCE OF THE PERSON NAMED IN

% Solids: 0.0



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#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Units: µG/L

Basis: NA

Matrix:

WATER

Lab Code: K2502714-003 DISS

Sample Name: 86-S1-110

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.382	B	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	2.200		N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	83.8		
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00386	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.4770		
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.203	В	
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	9.9300		
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.8140		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.042		
Nickel	200.8	0.222	0.002	l i	.4/28/05	4/29/05	12.7		
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0,48	В	
Silver	200.8	0.0222	0.0006	T I	4/28/05	4/29/05	0.0273		
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.07190		
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1 1	4/28/05	4/29/05	2.520		T

% Solids: 0.0

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#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-112

Lab Code: K2502714-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	60108	50	50	1	4/21/05	4/25/05	50	U	1
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.296	В	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	4.540	[	N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	184		Ĭ.
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00479	В	И
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0122	В	
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.580		1
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	6.0100	-	I
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.2250		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.037		<u> </u>
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	7.080		and the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of the same of th
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.68	В	<u> </u>
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0243		<b></b>
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00288	В	*****************
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.3	B	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	1.340	OTTO CONTRACT	*****************

% Solids: 0.0



#### INORGANIC ANALYSIS DATA SHEET

Client: EMAX Laboratories, Inc. Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-113

Lab Code: K2502714-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.300	B	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	1.550		И
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	74.3	ĺ	
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00216	B	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.2700	Ī	
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.375		
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	4.6700		
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.5280		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.012	В	
Nickel	200.8	2.220	0.022	10	4/28/05	4/29/05	87.9		
Selenium	7742	1,00	0.30	2	4/21/05	5/2/05	0.46	В	
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0027	В	
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.02780		Į
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	13.1		1

% Solids: 0.0



-1-

#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

WATER

Units: pG/L

Basis: NA

Sample Name: 86-S1-114

Lab Code: K2502714-006 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	1
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.306	В	Ĭ
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	1.630	<b></b>	N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	73.4	in the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the second section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of	
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00121	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.2940		
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.283	-	
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	6.3700	***************************************	E
Copper	200.8	0.1110	0.0009	ī	4/28/05	4/29/05	0.5730		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.013	В	<u> </u>
Nickel	200.8	2.220	0.022	10	4/28/05	4/29/05	99.0	The second section is	· · · · · · · · · · · · · · · · · · ·
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.52	В	-
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0029	В	
Thallium	200.8	0.02220	0.00007	rg .d.	4/28/05	4/29/05	0.02680		
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	13.2		

% Solids: 0.0

-1-

### INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/11/05

Project Name: Moffett Site 1

Date Received: 04/14/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-115

Lab Code: K2502714-007 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	T
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.414	В	Ì
Arsenic	200.8	1.110	0.004	2	4/28/05	4/29/05	2.760	T	N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	208	Ţ	
Beryllium	200.8	0.04440	0.00018	2	4/28/05	4/29/05	0.01100	В	N
Cadmium	200.8	0.0444	0.0007	2	4/28/05	4/29/05	0.0007	U	
Chromium	200.8	0.444	0.004	2	4/28/05	4/29/05	26.0		-
Cobalt	200.8	0.0444	0.0004	2	4/28/05	4/29/05	4.3300	<u> </u>	
Copper	200.8	0.2220	0.0018	2	4/28/05	4/29/05	0.8310	Ī	N
Lead	200.8	0.044	0.002	2	4/28/05	4/29/05	0.100		_
Nickel	200.8	2.220	0.022	1.0	4/28/05	4/29/05	497		Ī
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.84	В	
Silver	200.8	0.0444	0.0011	2	4/28/05	4/29/05	0.0017	В	Parental Marine
Thallium	200.8	0.04440	0.00013	2	4/28/05	4/29/05	0.00013	U	<u>r</u>
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	1.110	0.004	2	4/28/05	4/29/05	9.220	**************	

% Solids: 0.0

#### INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/12/05

Project Name: Moffett Site 1

Date Received: 04/15/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-116

Lab Code: K2502714-008 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	υ	<del></del>
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.214	В	Ī
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	1.050	.,	N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	507		***************************************
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00118	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0003	U	<u> </u>
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.366		Ĩ
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	1.2800		
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.1420		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.007	В	<u> </u>
Nickel	200.8	0.222	0.002	ž	4/28/05	4/29/05	4.020	-	<u> </u>
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.44	В	ľ
Silver	200.8	0.0222	0.0006	1.	4/28/05	4/29/05	0.0006	U	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00007	U	
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	0.529	<del>1</del> 2	

% Solids: 0.0



#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/12/05

Project Name: Moffett Site 1

Date Received: 04/15/05

Matrix:

WATER

Units: µG/L Basis: NA

Lab Code: K2502714-009 DISS

Sample Name: 86-S1-117

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	<del></del>
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.204	В	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	2.090		И
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	130		T
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00052	В	И
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0383		
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.263		
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	2.7400	Γ	
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.3290		Ŋ
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.007	В	
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	5.410	******	
Selenium	7742	1.00	0,30	2	4/21/05	5/2/05	0.48	В	
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0150	В	
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00007	U	<u> </u>
Vanadium	60103	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	6.460	-	-

% Solids: 0.0

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#### INORGANIC ANALYSIS DATA SHEET

Client: EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/12/05

Project Name: Moffett Site 1

Date Received: 04/15/05

Units: µG/L

Basis: NA

Matrix: WATER

Sample Name: 86-S1-118 Lab Code: K2502714-010 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.202	В	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	1.770		N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	130		
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00009	ប	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0413		
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.257		
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	2.4000		
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.4340		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.020	В	ĺ
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	5.270	CONTRACTOR CO.	
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.46	В	<u> </u>
Silver	200.8	0.0222	0.0006	I	4/28/05	4/29/05	0.0151	В	
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00007	U	l .
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	6.0	U	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	7.150		Ī

% Solids: 0.0

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#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected: 04/13/05

Project Name: Moffett Site 1

Date Received: 04/15/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-119

Lab Code: K2502714-011 DISS

Analyte	Analysis Method	MRL	MDI	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	
Antimony	200.8	2,000	0.240	2	4/21/05	4/25/05	0.252	В	T
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	6.350		N
Barium	200.8	2.00	1.20	2	4/21/05	4/25/05	218	<u> </u>	<u> </u>
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00817	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0056	В	Ī
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	1.190		
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	6.2900	parme u con	-
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.2430		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.014	В	
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	12.2		
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.44	В	-
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0031	В	-
Thallium	200.8	0.02220	0.00007	4	4/28/05	4/29/05	0.00007	U	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s
Vanadium	80108	10.0	6.0	1	4/21/05	4/25/05	6.5	В	E
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	0.792		FERRICA SERVICE

% Solids: 0.0

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#### INORGANIC ANALYSIS DATA SHEET

Client: EMAX Laboratories, Inc.

WATER

Service Request: K2502714

Project No.: NA Date Collected: 04/13/05

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Project Name: Moffett Site 1

Matrix:

Date Received: 04/15/05

Units: pG/L Basis: NA

Sample Name: 86-S1-120

Lab Code: K2502714-012 DISS

Analyte	Analysis Method	MRL	MDL	Dìl.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	U	
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.312	В	
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	5.430		N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	244		l
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00612	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0003	υ	i
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.376		
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	4.9900		
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.2140		N
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.011	B	
Nickel	200.8	0.222	0.002	1	4/28/05	4/29/05	13.2		
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0,54	В	
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0029	В	
Thallium	200.8	0.02220	0.00007	1	4/28/05	4/29/05	0.00007	U	
Vanadium	6010B	10.0	6.0	1	4/21/05	4/25/05	7.1	В	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	0.460	В	

% Solids: 0.0



#### INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2502714

Project No.: NA

Date Collected:

Project Name: Moffett Site 1

Date Received:

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K2502714-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	4/21/05	4/25/05	50	υ	
Antimony	200.8	1.000	0.120	1	4/21/05	4/25/05	0.120	Ū	Ĭ
Arsenic	200.8	0.556	0.002	1	4/28/05	4/29/05	0.002	U	N
Barium	200.8	1.00	0.60	1	4/21/05	4/25/05	0.60	U	Ì
Beryllium	200.8	0.02220	0.00009	1	4/28/05	4/29/05	0.00009	В	N
Cadmium	200.8	0.0222	0.0003	1	4/28/05	4/29/05	0.0003	Ü	
Chromium	200.8	0.222	0.002	1	4/28/05	4/29/05	0.002	ΰ	
Cobalt	200.8	0.0222	0.0002	1	4/28/05	4/29/05	0.0002	U	
Copper	200.8	0.1110	0.0009	1	4/28/05	4/29/05	0.0010	В	M
Lead	200.8	0.022	0.001	1	4/28/05	4/29/05	0.001	U	<u> </u>
Nickel	200.8	0.222	0.002	1.	.4/28/05	4/29/05	0.031	В	_
Selenium	7742	1.00	0.30	2	4/21/05	5/2/05	0.74	B	l
Silver	200.8	0.0222	0.0006	1	4/28/05	4/29/05	0.0006	U	
Thallium	200.8	0.02220	0.00007	garde.	4/28/05	4/29/05	0.00027	В	ĺ
Vanadium	60103	10.0	6.0	I	4/21/05	4/25/05	6.0	ΰ	
Zinc	200.8	0.556	0.002	1	4/28/05	4/29/05	0.006	В	

% Solids: 0.0

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: April 11, 2005

LDC Report Date: May 25, 2005

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D053

Sample Identification

86-S1-121 86-S1-108

86-S1-109**

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for all individual compounds.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method and validation criteria.

# IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 20.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

## XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

### XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

### XV. Overall Assessment

Data flags have been summarized at the end of the report.

#### XVI. Field Duplicates

No field duplicates were identified in this SDG.

### XVII. Field Blanks

Sample 86-S1-121 was identified as a trip blank. No volatile contaminants were found in this blank.

### Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

**Collection Date:** 

April 11, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D053

Sample Identification

86-S1-108 86-S1-109**

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination  $(r^2)$  was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

#### XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags have been summarized at the end of the report.

#### XVI. Field Duplicates

No field duplicates were identified in this SDG.

# XVII. Field Blanks

No field blanks were identified in this SDG.

### Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

Collection Date:

April 11, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D053

Sample Identification

86-S1-108 86-S1-109**

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

#### III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

# IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Pesticide Cleanup Checks

### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

### XIV. Field Duplicates

No field duplicates were identified in this SDG.

### XV. Field Blanks

No field blanks were identified in this SDG.

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

Collection Date:

April 11, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D053

Sample Identification

86-S1-108 86-S1-109**

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

### III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

## IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Pesticide Cleanup Checks

### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

### XIV. Field Duplicates

No field duplicates were identified in this SDG.

#### XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 05D053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, Site 1, CTO 86

Collection Date:

April 11, 2005

LDC Report Date:

May 23, 2005

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc./Columbia Analytical Services,

nc.

Sample Delivery Group (SDG): 05D053/K2502714

Sample Identification

86-S1-108 86-S1-109**

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 and EPA Method 200.8 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

#### III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples	
PB (prep blank)	Beryllium Copper Nickel Selenium Thallium Zinc	0.00009 ug/L 0.0010 ug/L 0.031 ug/L 0.74 ug/L 0.00027 ug/L 0.000 ug/L	All samples in SDG 05D053/K2502714	
ICB/CCB	Antimony	0.012 ug/L	86-S1-108	
ICB/CCB	Beryllium Cadmium Cobalt Nickel Selenium Silver Thallium	0.02 ug/L 0.02 ug/L 0.0050 ug/L 0.495 ug/L 0.28 ug/L 0.01 ug/L 0.05 ug/L	All samples in SDG 05D053/K2502714	
CB/CCB	Antimony	0.014 ug/L	86-S1-109**	

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater ( >5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Fina Concentration	
86-\$1-108	Antimony	0.396 ug/L	0.396U ug/L	
	Beryllium	0.00426 ug/L	0.00426U ug/L	
	Selenium	0.46 ug/L	0.46U ug/L	
86-\$1-109**	Antimony	0.304 ug/L	0.304U ug/L	
	Beryllium	0.00883 ug/L	0.00883U ug/L	
	Cadmium	0.0025 ug/L	0.0025U ug/L	
	Salenium	0.46 ug/L	0.46U ug/L	
	Silver	0.0013 ug/L	0.0013U ug/L	
	Thallium	0.00210 ug/L	0.00210U ug/L	

# IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

# V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-110MS (All samples in SDG 05D053/K2502714)	Arsenic Beryllium Copper	56 (75-125) 69 (75-125) 73 (75-125)	J (all detects) UJ (all non-detects)	A

# VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

# VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits for samples on which a EPA Level IV review was performed with the following exceptions:

Sample	Internal Standard	%R (Limits)	Analyte	Flag	Aori
36-S1-109**	Nickel-61 Indium-115 (4/29/05) Indium-115 (4/25/05)	253.6 (60-125) 143 (60-125) 148.5 (60-125)	Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc Antimony Barium	J (all detects) UJ (all non-detects)	Р

Raw data were not evaluated for the samples reviewed by Level III criteria.

# IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

## X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met

# XI. Sample Result Verification

All sample result verification met validation criteria with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG 05D053/K2502714	Antimony	Laboratory method detection limit reported at 0.12 ug/L.	MDL should be reported at 0.95 ug/L per the QAPP.	None	P
All samples in SDG 05D053/K2502714	Barium	Laboratory method detection limit reported at 0.60 ug/L.	MDL should be reported at 0.05 ug/L per the QAPP.	None	Р

Raw data were not evaluated for samples reviewed by Level III criteria.

# XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

## XIII. Field Duplicates

No field duplicates were identified in this SDG.

## XIV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Metals - Data Qualification Summary - SDG 05D053/K2502714

SDG	Sample	Analyte	Flag	AorP	Reason
05D053/ K2502714	86-S1-108 86-S1-109**	Arsenic Beryllium Copper	J (all detects) UJ (all non-detects)	А	Matrix spike analysis (%R)
05D053/ K2502714	86-S1-109**	Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc Antimony Barium	J (all detects) UJ (all non-detects)	Р	Internal standards (%R)
05D053/ K2502714	86-S1-108 86-S1-109**	Antimony Barium	None None	Р	Sample result verification

# Moffett Air Field, Site 1, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG 05D053/K2502714

SDG	Sample	Analyte	Modified Final Concentration	A or P
05D053/ K2502714	86-\$1-108	Antimony Beryllium Selenium	0.396U ug/L 0.00426U ug/L 0.46U ug/L	A
05D053/ K2502714	86-S1-109**	Antimony Beryllium Cadmium Selenium Silver Thallium	0.304U ug/L 0.00883U ug/L 0.0025U ug/L 0.46U ug/L 0.0013U ug/L 0.00210U ug/L	A

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C	**************************************	42%	465 455	1	
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# CHAIN-OF-CUSTODY RECORD

Project Information Section Do not submit to Laboratory	LOCATION DEPTH QC START END	WI-S R		2 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		SAMPLING COMMENT:		7
TETRA TECH  1230 Columbia Street, Suite 500  1230 Columbia Street, Suite 500  Sun Direct, CA, 21191 (619) 234-4696  PURCHASE ORDER NO  2 O R 4 R 7 7 S C C C C C C C C C C C C C C C C C	1028473 128473 128473 128473	17400 3 X 10	12-S1-117 H-12-05/600 11 N W DAM XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	119 0-13-06		RECEIVED BY (Signature)  LABORATORY INSTRUCTIONS/COMMENTS  COMPART  COMPART	RECEIVED BY (Signature) COMPOSITE DESCRIPTION COMPANY COMPANY	SAMPLE CONDITION: DATE RECEIVED BY (Signature) SAMPLE CONDITION: DINTACT DISTORMENTURE: SAMPLE CONDITION: DINTACT DISTORMEN DINTACT DISTORMENTURE: COMPANY COOLER SEAL: DINTACT DISTORMENTURE: COMPANY COOLER SEAL: DINTACT DISTORMENTURE: COMPANY COOLER SEAL: DINTACT DISTORMENTURE: COMPANY COOLER SEAL: DISTORMENTURE: DATE Management



1835 W. 205th Street Torrance, CA 90501

Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 05-09-2005 EMAX Batch No.: 050068

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on  $04/14/05\,.$  The data reported include :

Sample 10	Centrol #	Col Date	Matrix	Analysis
86-S1-123 86-S1-116	D068-01 D068-02	04/12/05 04/12/05		VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MYZOOBOW
86-51-117	0068-03	04/12/05	WATER	SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW
86-51-118	D068-04	04/12/05	WATER	SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MTZOOBDW SEMIVOLATILE ORGANICS BY GCMS



Sample ID	Control # 0068-05	Col Date 04/13/05	Matrix WATER	Analysis  VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS
86-\$1-120	b068-06	04/13/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED MT2008DW SEMIVOLATILE ORGANICS BY GCMS

Note: Results for Dissolved Metals which were subcontracted to Columbia Analytical Services, Inc. may be found in SDG 05D053.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



# CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D068

## SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 04/14/05 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd ed.

# 1. Holding Time

Analytical holding time was met.

# 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

## Method Blank

Method blank was free of contamination at the reporting limit.

## 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

# 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

VOLATILE ORGANICS	BY GC/MS	######################################	222222 222222
Client : TETRA TECH FW, INC. Project : MFA, SiTE 1, CTO 86 Batch No. : 05D068 Sample ID: 86-S1-123 Lab Samp ID: D068-01 Lab File ID: RD0345 Ext Btch ID: V005030 Calib. Ref.: RD0221	Date R Date Ex Date A Dilution Matrix % Moist	Alected: 04/12/05 eceived: 04/14/05 tracted: 04/19/05 inalyzed: 04/19/05 Factor: 1 Factor: 1 WATER HE NA	04:22 04:22
PARAMETERS  1. 1.2 - TETRACHLOROETHANE 1.1.2 - 2 - TETRACHLOROETHANE 1.1.2 - 2 - TETRACHLOROETHANE 1.1.2 - 2 - TETRACHLOROETHANE 1.1.3 - TETRICHLOROETHANE 1.1.4 - TETRICHLOROETHANE 1.1.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.2.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROBENZENE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROPROPANE 1.3.5 - TETRICHLOROBENZENE 2.5 - GUILLOROPROPANE 2.5 - GUILLOROPROPANE 2.5 - GUILLOROPROPANE 2.6 - GUILLOROPROPANE 2.6 - GUILLOROPROPANE 2.7 - SOURCE THANE 2.8 - GUILLOROPROPANE 2.8 - GUILLOROPROPENE 2.9 - SOURCE THANE 2.1 - SOURCE THANE 2.1 - SOURCE THANE 2.1 - SOURCE THANE 2.1 - SOURCE THANE 2.2 - SOURCE THANE 2.3 - SOURCE THANE 2.4 - GUILLOROPROPENE 3.5 - TETRICHLOROPROPENE 3.5 - TETR	RESULTS SUPPLIES OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPER	( ) ما ا ا ا الاستان الالاستان الالاستان الالاستان الالاستان الالاستان الالاستان المالاليان المالاليان الالاستان الالاستان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالاليان المالالي	MD/L

VOLATILE ORGANICS	BY GC/MS		
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05D068 Sample: ID: 86-S1-116 Lab Samp ID: D063-02 Lab File ID: R0346 Ext Btch ID: V005030 Calib. Ref.: R00221	Date Control Date Date Date Date Dilution Matrix % Moist	Received: 04/14/05 Extracted: 04/19/05 Analyzed: 04/19/05 on Factor: 1 : WATER ture : NA ment ID : I-005	04:59 04:59
PARAMETERS  1 1, 1, 2 TETRACHLOROETHANE 1 1, 1 TETICHLOROETHANE 1 1, 2 TETRACHLOROETHANE 1 2, 3 TETRACHLOROBENZENE 1 2, 3 TETRACHLOROBENZENE 1 2, 4 TETRACHLOROBENZENE 1 2, 4 TETRACHLOROBENZENE 1 2, 4 TETRACHLOROETHANE 1 2, 5 TETRACHLOROETHANE 1 2, 5 TETRACHLOROETHANE 1 3, 5 TETRACHLOROETHANE 1 3, 5 TETRACHLOROETHANE 1 3, 5 TETRACHLOROETHANE 1 3, 5 TETRACHLOROENZENE 1 3, 5 TETRACHLOROETHANE 1 3, 5 TETRACHLOROENZENE 1 3, 5 TETRACHLOROENZENE 1 3, 5 TETRACHLOROENZENE 1 3, 5 TETRACHLOROENZENE 1 3, 5 TETRACHLOROENZENE 1 4 TETRACHLOROETHANE 2 TETRACHLOROETHANE 2 TETRACHLOROETHANE 2 TETRACHLOROETHANOE 3 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE 4 TETRACHLOROETHANOE	RESULTS (Ug/L) ND ND ND ND ND ND ND ND ND ND ND ND ND	RL) - 55-15-55-55-55-55-55-55-55-55-55-55-55-5	(ug/L)
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SURROGATE PARAMETERS  1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE R.L.: Reporting limit * Out of GC F Exceeded calibration range	% RECOVER* 115 100 95	62-139 75-125 75-125	

* : Out of QC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

VOLATILE ORGANICS	BY GC/MS		
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: O5D068 Sample: ID: 86-S1-117 Lab Samp ID: D063-03 Lab Fite ID: R0347 Ext Btch ID: V005030 Calib. Ref.: R00221	Date Control Date Date Date Date Date Date Date Matrix	Received: 04/14/US extracted: 04/19/05 Analyzed: 04/19/05 on Factor: 1 ture NA ment ID : I-005	05:36 05:36
	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS	ND	-15	-2
PARAMETERS  1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.2-TETRACHLOROETHANE 1.2-TETRACHLOROETHANE 1.2-TETRACHLOROETHANE 1.2-DICHLOROPETHANE 1.2-DICHLOROPENPENE 1.2-TETRACHLOROBENZENE 1.2-TETRACHLOROBENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROMETHANE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE CARBON TISTACHURORETHANE CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFORM CHLOROFO	######################################	62-139 75-122	הלימים אימיה מימימים מימימים מימימים מה היה ממימים מימימים מימימים מימימים מימימים מימים בלימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים מימים
R.L.: Reporting limit  * Out of QC  F Exceeded calibration range	n mete		

* : Out of QC
E : Exceeded calibration range
B : Found in associated method blank
Value between R.L. and MDL
Value from dilution analysis
D.O.: Diluted out

Client : IETRA TECH FW. 1NC. Date Collected: 04/12/05 Project : WFA. SITE, CTO 80 Date Received: 04/12/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received: 04/14/05 06:13 Date Received:	VOLATILE ORGANICS	BY GC/MS		
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	1.1.2.TETRACHLOROETHANE 1.1.2.TRICHLOROETHANE 1.1.2.TRICHLOROETHANE 1.2.TRICHLOROETHANE 1.1.DICHLOROETHANE 1.1.DICHLOROFTHENE 1.1.DICHLOROFTHENE 1.2.TRICHLOROBENZENE 1.2.TRICHLOROBENZENE 1.2.TRICHCOROBENZENE 1.2.TRICHCOROBENZENE 1.2.TRICHCOROBENZENE 1.2.DICHLOROETHANE 1.2.DICHLOROETHANE 1.2.DICHLOROETHANE 1.2.DICHLOROETHANE 1.2.DICHLOROETHANE 1.3.DICHLOROETHANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPANE 1.3.DICHLOROPROPENE 1.3.DICHLOROPROPENE 1.3.DICHLOROPROPENE 1.3.DICHLOROPROPENE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.3.DICHLOROPETHANE 1.	(ug/L) ND ND ND ND ND ND ND ND ND ND ND ND ND N	() () () () () () () () ()	האלוט'נאלאלאנאלאראר – אליואלאלאלאלאלאלאלאלאלאלאלאלאלאלאלאלאלאל

VOLATILE ORGANICS	BY GC/MS		
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 050068 Sample ID: 86-51-119 Lab Samp ID: D068-05 Lab File ID: R0349 Ext Stch ID: V005D30 Calib. Ref.; RDQ221	Date Date Date Diluti Matrix % Mois	Received: U4/14/05 Extracted: 04/14/05 Analyzed: 04/19/05 on Factor: 1 : WATER ture: NA ment ID: T-005	06:50 06:50
	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS			,2
1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.2-TETRACHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.1.51CHLOROETHANE 1.2.5TRICHLOROENZENE 1.2.3-TRICHCOROBENZENE 1.2.3-TRICHCOROBENZENE 1.2.3-TRICHCOROBENZENE 1.2.4-TRIMETHYLBENZENE 1.2.5-TRICHCOROBENZENE 1.2.5-TRICHCOROBENZENE 1.2.5-TRICHCOROPROPANE 1.2.5-TRIMETHYLBENZENE 1.3.5-TRIMETHYLBENZENE 1.3-5-TRIMETHYLBENZENE 1.3-5-TRIME	######################################	62-139 75-125	היטיאינימימימימימימימימימימימימימימימימימימ
R.L. Reporting limit  * Out of GC E E Exceeded calibration range a Found in associated method bia	nk		

Exceeded calibration range found in associated method blank Value between R.L. and MDL value from dilution analysis D.O. piluted out

VOLATILE ORGANICS	BY GC/MS		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : G5DG68 Sample ID: 86-S1-120 Lab Samp ID: D068-06 Lab File ID: R00350 Ext Btch ID: V005030 Calib. Ref.: RD0221	Date Co Date Ex Date A Dilution Matrix % Moistu	eceived: 04/14/05 tracted: 04/19/05 nalyzed: 04/19/05 Factor: 1 : WATER re : NA	07:26 07:26
11.1.2-TETRACHLOROETHANE 11.1.2-TETRACHLOROETHANE 11.2.2-TETRACHLOROETHANE 11.2.2-TETRACHLOROETHANE 11.2.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	REAL STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF THE STATES OF T	##	MIT ASSERTANCE AND AND AND AND AND AND AND AND AND AND



## CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D068

## SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 04/14/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

## 1. Holding Time

Analytical holding time was met.

## 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

## 3. Method Blank

Method blank was free of contamination at the reporting limit.

# Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

## 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

## SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SEMI VOLATILE ORGANI	CS BY GC/M	(S	
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 050068 Sampte ID: 86-S1-116 Lab Samp ID: D068-02 Lab File ID: RDH123 Ext Btch ID: SV0016W Calib Ref : RCH307	Date Date Date Date Dilut Matri % Moi Instr	magne in ; ; ; ;	13:00 19:03
Company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the compan	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS	ND	9-5	4.8 4.8
PARAMETERS  2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.DINTETHYLPHENOL 2.4-DINTETHYLPHENOL 2.4-DINTETHYLPHENOL 2.4-DINTETOLUENE 2.6-DINTETOLUENE TO THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CONTRACT OF THE CO		@@@@ININY.@@@@P.@@@\$.O@@@@@@@@@@@@@@@@@@@@@@@@@@@	
SURROGATE PARAMETERS  2.4 6-TRIBROMOPHENOL 2FLUOROBIPHENOL 2FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14		25 - 134 25 - 125 88 - 45 - 125 99 - 32 - 125 99 - 32 - 125 99 - 42 - 126	
ni - Ponortina Limit	Inhonal		

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SW 3520C/62 SEMI VOLATILE ORGAN!	CS BY GC/MS	3	or man to come of the come
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D068 Sample : ID: 86-51-117 Lab Samp ID: D068-03 Lab File ID: RDH124 Ext Bth ID: SVD016W EXI BC FI. RCH307	Date Date Date Date Dilui Matrix % Mois Instru	Collected: 04/12/05 Received: 04/14/05 Received: 04/14/05 Extracted: 04/16/05 Analyzed: 04/19/05 on Factor: 95 ture NA ment 1D : T-041	MD1
PARAMETERS  2 4,5-TRICHLOROPHENOL 2'4,6-TRICHLOROPHENOL 2'4,6-TRICHLOROPHENOL 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-INITROTOLUENE 2'4,0-IN	RESULTS  OD  NO  NO  NO  NO  NO  NO  NO  NO  NO		L) 888855788888788885688888888888888888888
BISC2-CHLOROE THYL) ETHER BISC2-CHLOROE THYL) ETHER BISC2-CHLOROE THYL) ETHER BISC2-CHLOROE THYL) ETHER BISC2-CHLOROE SOPROPYL) FITHER BISC2-CHLYRE BUTYL BENTYL BENTYL BENTYL BENTYL BENTYL BENTYL BENTYL BENTYL PHITHALATE  CHRYSENE DI-N-BUTYL PHITHALATE DI-N-BUTYL PHITHALATE DIBENZO FURAN DIETHYL PHITHALATE DIMETHYL PHITHALATE DIMETHYL PHITHALATE FLUORANTHENE FLUORANTHENE HEXACHLOROC THANE HEXACHLOROC THANE INDENO(1, 2, 3-OD) PYRENE ISOPHORONE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE SENZALDEHONL N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPYLAMINE N-MITROSO-DI-N-PROPY	NO NO NO NO NO NO NO NO NO NO NO NO NO N	25 - 134 - 25 - 1325 - 25 - 125 -	55-8388897888788888888888888884444444444444

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SW 3920C/O	CS BY GC/	4S	
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 055068 Sample ID: 86-S1-118 Lab Samp ID: D68-04 Lab File ID: RDH125 Ext Btch ID: SVD016W Calib. Ref: RCH307	Date Date Date Date Date Date Matri Matri Instr	Collected: 04/12/05 Received: 04/14/05 Extracted: 04/16/05 Analyzed: 04/19/05 ion Factor: 04 sture : WATER sture : YA umment ID : T-041	13:00 19:58
	RESULTS (ug/L)	RL (ug/L)	(ug/L)
PARAMETERS	ND	9-4	4.7 4.7
PARAMETERS  2, 4, 5-TRICHLOROPHENOL 2, 4-6-TRICHLOROPHENOL 2, 4-DINCHLOROPHENOL 2, 4-DINCHLOROPHENOL 2, 4-DINCHLOROPHENOL 2, 4-DINCHLOROPHENOL 2, 4-DINCHLOROPHENOL 2, 4-DINCHOROPHENOL 2, 4-DINCHOROPHENOL 2, 4-DINCHOROPHENOL 2, 4-DINCHOROPHENOL 2, 4-DINCHOROPHENOL 2, 4-DINCHOROPHENOL 2, METHYLPHENOL 2, MITROANILINE 2-MITROANILINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 3, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 4, 1-DICHLOROSENZIDINE 5, 2-DICHLOROSENZIDINE 5, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLOROSENZIDINE 6, 2-DICHLORO	######################################	~	U) - 7777746777746777777777777777777777777
RL: Reporting Limit	phenol		

RL: Reporting Limit (1): Carnot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SEMI VOLATILE ORGAN	ICS BY GC/M	S	
Client: IEIRA IECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 050068 Sample ID: 86-S1-119 Lab Samp ID: D068-05 Lab File ID: RDH126 Ext Btch ID: SVD016W Calib. Ref: RCH307	instru	ment to I of	*=====
PARAMETERS  2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,6-TRICHLOROPHENOL 2,6-TRICHLOROPHENOL 2,6-TRICHLOROPHENOL 3,3-1-5-TRICHLOROPHENOL 4,6-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 4-TRICHLOROPHENOL 5-TRICHLOROPHENOL 5-TRIC	RESULTS)  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RESULTS  RE	ID : T-041  RL) - 4-4-4-09-09-09-09-09-09-09-09-09-09-09-09-09-	
2.4.6-TRIBNOMOPHENOL 2:fLUGROBIPHENYL 2-FLUGROPHENOL NITROBENZENE-D5 PMENOL-D5 TERPHENYL-D14	81 67 62 76 69 86	25-134 43-125 25-125 32-125 32-125 25-125 42-126	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



#### SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

SEMI VOLATILE URGA			
Client : IETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 05D068 Sample ID: 86-S1-120 Lab Samp ID: 0068-06 Lab File ID: RDH127 Ext Btch ID: SVD016W Calib. Ref.: RCH307	Date C Date E Date E Dilutio Matrix % Moist	ollected: 04/1 Received: 04/1 xtracted: 04/1 Analyzed: 04/1 n Factor: .96 WATE ure :NA ent ID : T-04	1
PARAMETERS  2 4.5-TRICHLOROPHENOL 2 4.6-TRICHLOROPHENOL 2 4.6-TRICHLOROPHENOL 2 4.6-DIRITROTOLUENE 2 4.6-DIRITROTOLUENE 2 6.6-DIRITROTOLUENE 3 7.6-DICHOROBENZIDINE 3 7.6-DICHOROBENZIDINE 3 7.1-DICHOROBENZIDINE 3 7.1-DICH	RE()	RL) -666699966699666996669966669696666999999	L), 2920066820000000000000000000000000000000
RL: Reporting Limit	ann!		

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



#### CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D068

## SW3520C/8081A PESTICIDES

Five (5) water samples were received on 04/14/05 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

## Holding Time

Analytical holding time was met.

# 2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

## 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

## 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



#### SW3520C/8081A PESTICIDES

Client : TETRA TECH FW, INC. Date Collected: 04/12/05
Project : MFA, SITE 1, CTO 86 Date Received: 04/14/05
Batch No. : 05D068 Date Extracted: 04/14/05 13:00
Sample ID: 86-S1-116 Date Analyzed: 04/18/05 20:17
Lab Samp ID: D068-02 Dilution Factor: .94
Lab File ID: SD18021A Matrix : WATER
Ext Btch ID: CPD012W % Moisture : NA
Calib. Ref.: SD18003A Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/l) (ug/l)
	gy up an de se	
ALPHA-BHC	.038J (.054)	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) .04J	.047 .0094 .0094
BETA-BHC	(ND) 10	.047 .0094 .0094
HEPTACHLOR	(ND) .01J	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .011J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) .022J	.047 .0094 .0094
GAMMA - CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
	(ND) ND	.094 .028 .028
4,41-DDD ENDOSULFAN II	(ND) ND	.094 .019 .019
	(ND) ND	.094 .019 .019
4,4'-DDT ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE METHOXYCHLOR	(ND) ND	.47 .094 .094
	(ND) ND	2.8 1.2 1.2
TOXAPHENE	(45) } (45)	•
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
	(103)   100	30-130
TETRACHLORO-M-XYLENE	(84) 82	30-130
DECACHLOROBIPHENYL	(04)   0c	

RL : Reporting limit Left of | is related to first column ; Right of | related to second column ( ) included the reported column



#### SW3520C/8081A PESTICIDES

Date Collected: 04/12/05 Ctient : TETRA TECH FW, INC.
Project : MFA, SITE 1, CTO 86
Batch No. : 050068
Sample ID: 86-S1-117 Date Received: 04/14/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 20:42 Dilution Factor: .95 Lab Samp ID: 0068-03 Matrix : WATER Lab File ID: SD18022A % Moisture : NA Ext Btch ID: CPD012W Instrument ID : GCT008 

	RESULTS	RL MDL (ug/L) (ug/L)
PARAMETERS	(ug/L)	
ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC HEPTACHLOR DELTA-BHC ALDRIN HEPTACHLOR EPOXIDE GAMMA-CHLORDANE ALPHA-CHLORDANE ENDOSULFAN ! 4,4'-DDE DIELDRIN ENDRIN 4,4'-DDD ENDOSULFAN II 4,4'-DDT ENDOSULFAN II 4,4'-DDT ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN KETONE METHOXYCHLOR TOXAPHENE	(ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND	.048 .0095   .0095   .0095   .048 .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .0095   .009
SURROGATE PARAMETERS	. % RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	82 (91) (81) 80	30-130 30-130

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## sw3520c/8081A PESTICIDES

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D068 Sample ID: 86-S1-118 Lab Samp ID: D068-04 Lab File ID: SD18023A Ext Btch ID: CPD012W Calib. Ref.: SD18003A	Date Collected: 04/12/05 Date Received: 04/14/05 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 21:07 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
	4574

TARANCTERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
PARAMETERS  ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC HEPTACHLOR DELTA-BHC ALDRIN HEPTACHLOR EPOXIDE GAMMA-CHLORDANE ALPHA-CHLORDANE ENDOSULFAN I 4,4'-DDE DIELDRIN ENDRIN 4,4'-DDD ENDOSULFAN II 4,4'-DDT ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN KETONE- METHOXYCHLOR	(D)   ND   ND   ND   ND   ND   ND   ND	.047 .0094 .0094 .047 .0094 .0094 .0094 .0094 .0094 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .028 .028 .049 .028 .028 .094 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .094 .019 .019 .019 .019 .019 .019 .019 .019
TOXAPHENE SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	69 (79) (78)   78	30-130 30-130

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column



#### sw3520c/8081A PESTICIDES

client : TETRA TECH FW, INC. Date Received: 04/14/05 Project : MFA, SITE 1, CTO 86 Batch No. : 050068 Date Extracted: 04/14/05 13:00 Date Analyzed: 04/18/05 21:32 Sample ID: 86-S1-119 Dilution Factor: .95 Lab Samp 10: D068-05 : WATER Matrix Lab File ID: SD18024A ; NA % Moisture Ext Btch ID: CPD012W Instrument ID : GCT008 

MDL RL RESULTS (ug/L) (ug/L) (ug/L) PARAMETERS .0095 | .0095 .048 .01J|(ND) ......... .048 .0095 | .0095 ALPHA-BHC (ND) ND .0095 .0095 GAMMA-BHC (LINDANE) .048 (ND) ND .0095 .0095 .048 BETA-BHC (ND) ND .0095 .0095 .048 HEPTACHLOR (ND) ND .0095 .0095 .048 DELTA-BHC (ND) .018J .0095 .0095 .048 ALDRIN (ND) ND .0095 .0095 HEPTACHLOR EPOXIDE .048 (ND) ND .048 .0095 .0095 GAMMA-CHLORDANE (ND) ND .028 .028 ALPHA-CHLORDANE .048 (ND) ND .028 .028 ENDOSULFAN I .095 (ND) ND .095 .095 .19 4,41-DDE (ND) ND .019 .019 DIELDRIN .095 (ND) ND .028 .028 .095 ENDRIN (ND) ND .019 .019 .095 4,41-DDD (ND) ND .019 .019 ENDOSULFAN II .095 (ND) ND .019 .019 .095 4.41-DDT (ND) ND .019 .019 ENDRIN ALDEHYDE .095 (ND) ND .019 .019 ENDOSULFAN SULFATE .095 (ND) ND .095 .095 .48 ENDRIN KETONE (ND) ND 1.2 1.2 METHOXYCHLOR 2.8 (ND) ND TOXAPHENE QC LIMIT % RECOVERY SURROGATE PARAMETERS ...... 30-130 60 (69) TETRACHLORO-M-XYLENE 30-130 (67) | 65 DECACHLOROBIPHENYL

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#### SW3520C/8081A PESTICIDES

Client : IETRA TECH FW, INC.

Project : MFA, SITE 1, CTO 86

Batch No. : 05D068

Sample ID: 86-S1-120

Lab Samp ID: D068-06

Lab File ID: SD18025A

Ext Btch ID: CPD012W

Calib. Ref.: SD18003A

PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC HEPTACHLOR DELTA-BHC ALDRIN HEPTACHLOR EPOXIDE GAMMA-CHLORDANE ALPHA-CHLORDANE ENDOSULFAN I 4,4'-DDE DIELDRIN ENDRIN 4,4'-DDD ENDOSULFAN II 4,4'-DDT ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN KETONE METHOXYCHLOR	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.048 .0096 .0096 .0096 .048 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0099 .0096 .0099 .0096 .0099 .0096 .0096 .0099 .0096 .0099 .0096 .0099 .0096 .0099 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0019 .019 .0096 .0096 .0099 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .0096 .009
TOXAPHENE SURROGATE PARAMETERS	% RECOVERY	GC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	86 (88) (89)  88	30-130 30-130

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## CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D068

#### SW3520C/8082 PCBs

Five (5) water samples were received on 04/14/05 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

# 1. Holding Time

Analytical holding time was met.

# 2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

## 3. Method Blank

Method blank was free of contamination at the reporting limit.

# 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

# 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



#### SW3520C/8082 PCBs

Ctient : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 050068 Sample ID: 86-51-116 Lab Samp ID: D068-02 Lab File ID: SD18021A Ext Btch ID: CPD012W Calib. Ref.: SD18006A	Date Date Date Dilut Matri % Moi	Received: 04/ Extracted: 04/ Analyzed: 04/ ion Factor: .94	14/05 14/05 13:00 18/05 20:17 ER
PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254  PCB-1254	RESULTS (ug/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L) 	MDL (ug/L)  -24 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24 -24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (76) 96 (93) 91	30-130 30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

( ) included the reported column

* Out side of GC Limit



#### sw3520c/8082 PCBs

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D068 Sample ID: 86-S1-117 Lab Samp ID: D068-03 Lab File ID: SD18022A Ext Btch ID: CPD012W Calib. Ref.: SD18006A	Date Date Date Dit Mat % M	e Collected: 04/ e Received: 04/ e Extracted: 04/ e Analyzed: 04/ ution Factor: .9/ rix : WA oisture : NA trument ID : GC	/14/05 /14/05 /14/05 13:00 /18/05 20:42 5 TER
PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254  PCB-1254  PCB-1260	RESULTS (Ug/L) (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND (ND)   ND	RL (ug/L) -95 -95 -95 -95 -95 -95	.24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (76)  88 (90)  89	QC LIMIT 30-130 30-130	

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column

( ) included the reported column

* Out side of OC Limit

#### SW3520C/8082 PCBs

	1 ***	
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 050068 Sample: ID: 86-S1-118 Lab Samp ID: D068-04 Lab File: ID: SD18023A Ext Btch ID: CP0012W Calib. Ref.: SD18006A	D D D D D M	ate Collected: 04/12/05 ate Received: 04/14/05 ate Extracted: 04/14/05 13:00 ate Analyzed: 04/18/05 21:07 vilution Factor: .94 fatrix : WATER % Moisture : NA Instrument ID : GCT008
PARAMETERS  PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1254 PCB-1256	RESULTS (Ug/L)  (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL MDL (ug/L)  .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24
SURROGATE PARAMETERS  TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (67) 76 (87) 86	30-130 30-130

RL: Reporting Limit
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( ) included the reported column
* Out side of QC Limit



# SW3520C/8082 PCBs

		<b>中华在李宗本是李宗本的李宗本</b>	;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D068 Sample ID: 86-S1-119 Lab Samp ID: D068-05 Lab File ID: SD18024A Ext Btch ID: CPD012W Calib. Ref.: SD18006A	Date Date Date Date Diluti Matriy % Mois Instru	Collected: 04/ Received: 04/ Extracted: 04/ Analyzed: 04/ ion Factor: .9	13/05 14/05 14/05 13:00 18/05 21:32 5 TER
PARAMETERS  PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1254	RESULTS (Ug/L)  (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L) .95 .95 .95 .95 .95 .95	
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (57)   66 (74)   72	30-130 30-130	

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



#### sw3520c/8082 PC8s

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05D068 Sample ID: 86-S1-120 Lab Samp ID: D068-06 Lab File ID: SD18025A Ext Btch ID: CPD012W Calib. Ref.: SD18006A	Date Date Date Dilut Matri % Mo Insti	Collected: 04. Received: 04 Extracted: 04 Analyzed: 04 tion factor: .9	/14/05 /14/05 13:00 /18/05 21:58 6 ITER I
PARAMETERS  PCB-1016  PCB-1221  PCB-1232  PCB-1242  PCB-1248  PCB-1254  PCB-1260	RESULTS (Ug/L) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	RL (ug/L)  .96 .96 .96 .96 .96	.24 .24 .24 .24 .24 .24 .24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (83) 84 (99) 97	QC LIMIT 30-130 30-130	

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



#### **CASE NARRATIVE**

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05D068

## METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Five (5) water samples were received on 04/14/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

# 1. Holding Time

Analysis met holding time criteria.

#### 2. Method Blank

Method blank was free of contamination at the reporting limit.

# 3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

# 4. Serial Dilution / Post-Analytical Spike

Sample D061-02 from another SDG was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

# 5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

# 6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were analyzed at DF20 due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

	MATER T1047	Received DATETIME 04/19/05 04/19/05 04/14/05 04/14/05 04/14/05 04/14/05 04/14/05
	Matrix :    Instrument   10 :	Collection DATETIME NA NA NA NA NA NA NA NA NA NA NA NA NA
10 17 18 18 18 18 18 18 18 18 18 18 18 18 18	Matr Inst	PREP BATCH HGDO16W HGDO16W HGD016W HGD016W HGD016W HGD016W HGD016W
THE PARTY CAN ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND ARE SET USE AND	and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t	CAL REF M47D015008 M47D015008 M47D015008 M47D015020 M47D015020 M47D015020 M47D015020
COLD VAPOR	Matrix : WATER	RE MDL Analysis Extraction
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RL: Reporting Limit

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, MFA Site 1, CTO 86

Collection Date: April 12 through April 13, 2005

LDC Report Date: May 25, 2005

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D068

#### Sample Identification

86-S1-123

86-S1-116

86-S1-117

86-S1-118**

86-S1-119

86-S1-120

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for all individual compounds.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method and validation criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 20.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

#### XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags have been summarized at the end of the report.

#### XVI. Field Duplicates

Samples 86-S1-117 and 86-S1-118** were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

	Concentra	ation (ug/L)	
Compound	86-S1-117	86-51-118**	RPD
Acetone	100	4.4	Not calculable

#### XVII. Field Blanks

Sample 86-S1-123 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

**Collection Date:** 

April 12 through April 13, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D068

Sample Identification

86-S1-116

86-S1-117

86-S1-118**

86-S1-119

86-S1-120

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination  $(r^2)$  was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were less than or equal to 20.0% for all compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

# XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

#### XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags have been summarized at the end of the report.

# XVI. Field Duplicates

Samples 86-S1-117 and 86-S1-118** were identified as field duplicates. No semivolatiles were detected in any of the samples.

#### XVII. Field Blanks

No field blanks were identified in this SDG.

# Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

Collection Date:

April 12 through April 13, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D068

Sample Identification

86-S1-116

86-S1-117

86-S1-118**

86-S1-119

86-S1-120

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Pesticide Cleanup Checks

#### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

#### XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

# XIV. Field Duplicates

Samples 86-S1-117 and 86-S1-118** were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

#### XV. Field Blanks

No field blanks were identified in this SDG.

### Moffett Airfield, MFA Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA Site 1, CTO 86

**Collection Date:** 

April 12 through April 13, 2005

LDC Report Date:

May 25, 2005

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05D068

Sample Identification

86-S1-116

86-S1-117

86-S1-118**

86-S1-119

86-S1-120

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

#### III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

#### IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Pesticide Cleanup Checks

#### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

#### XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

#### XIV. Field Duplicates

Samples 86-S1-117 and 86-S1-118** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

#### XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

Moffett Airfield, MFA Site 1, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 05D068

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: April 12 through April 13, 2005

LDC Report Date: May 23, 2005

Matrix: Water

Parameters: Metals

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc./Columbia Analytical Services,

Inc.

Sample Delivery Group (SDG): 05D068/K2502714

# Sample Identification

86-S1-116

86-S1-117

86-S1-118**

86-S1-119

86-S1-120

86-S1-120MS

86-S1-120DUP

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 and EPA Method 200.8 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

#### III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Beryllium Copper Nickel Selenium Thallium Zinc	0.00009 ug/L 0.0010 ug/L 0.031 ug/L 0.74 ug/L 0.00027 ug/L 0.0006 ug/L	All samples in SDG 05D068/K2502714
ICB/CCB	Antimony Arsenic Beryllium Cadmium Chromium Cobalt Nickel Selenium Silver Thallium Zinc	0.014 ug/L 0.097 ug/L 0.00890 ug/L 0.01 ug/L 0.071 ug/L 0.0040 ug/L 0.022 ug/L 0.28 ug/L 0.01 ug/L 0.02500 ug/L	All samples in SDG 05D068/K2502714

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater ( >5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

	Analyte	Reported Concentration	Modified Final Concentration
Sample 86-S1-116	Antimony Beryllium Selenium	0.214 ug/L 0.00118 ug/L 0.44 ug/L	0.214U ug/L 0.00118U ug/L 0.44U ug/L
86-S1-117	Antimony	0.204 ug/L	0.204U ug/L
	Beryllium	0.00052 ug/L	0.00052U ug/L
	Selenium	0.48 ug/L	0.48U ug/L
86-\$1-118**	Antimony	0.202 ug/L	0.202U ug/L
	Selenium	0.46 ug/L	0.46U ug/L
86-\$1-119	Antimony	0.252 ug/L	0.252U ug/L
	Cadmium	0.0056 ug/L	0.0056U ug/L
	Gelenium	0.44 ug/L	0.44U ug/L
	Silver	0.0031 ug/L	0.0031U ug/L
as-51-120	Antimony	0.312 ug/L	0.012U ug/L
	Selenium	0.54 ug/L	0.54U ug/L
	Silver	0.0029 ug/L	0.0029U ug/L

# IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

# V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-110MS (All samples in SDG 05D068/K2502714)	Arsenic Beryllium Copper	56 (75-125) 69 (75-125) 73 (75-125)	J (all detects) UJ (all non-detects)	A

# VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

#### VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits for samples on which a EPA Level IV review was performed with the following exceptions:

Sample	Internal Standard	%R (Limits)	Analyte	Flag	A or P
86-S1-118**	Nickei-61 Indium-115 (4/29/05) Indium-115 (4/25/05)	139 (60-125) 134.7 (60-125) 167.4 (60-125)	Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc Antimony Barium	J (all detects) UJ (all non-detects)	P

Raw data were not evaluated for the samples reviewed by Level III criteria.

#### IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

#### X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

#### XI. Sample Result Verification

All sample result verification met validation criteria with the following exceptions:

Sample	Analyte	Finding	Criteria	Flag	A or P
All samples in SDG 05D068/K2502714	Antimony	Laboratory method detection limit reported at 0.12 ug/L.	MDL should be reported at 0.05 ug/L per the QAPP.	None	Þ
All samples in SDG 05D068/K2502714	Barium	Laboratory method detection limit reported at 0.60 ug/L.	MDL should be reported at 0.05 ug/L per the QAPP.	None	₽

Raw data were not evaluated for samples reviewed by Level III criteria.

#### XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

#### XIII. Field Duplicates

Samples 86-S1-117 and 86-S1-118** were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	ation (ug/L)	
Compound	86-S1-117	86-S1-118**	RPD
Antimony	0.204	0.202	ŧ.
Arsenic	2.090	1.770	17
8arium	130	130	0
Beryllium	0.00052	Ue0000,0	Not calculable
Cadmium	0.0383	0.0413	8
Chromium	0.263	0.257	2
Cobalt	2.7400	2.4000	13
Соррег	0,3290	0.4340	28
Lead	0.007	0.020	96
Nickei	5.410	5.270	3
Selenium	0.48	0.46	4
Silver	0.0150	0.0151	1
Zine	6.460	7.150	10

#### XIV. Field Blanks

No field blanks were identified in this SDG.

#### Moffett Air Field, Site 1, CTO 86 Metals - Data Qualification Summary - SDG 05D068/K2502714

SDG	Sample	Analyte	Flag	A or P	Reason
05D068/ K2502714	86-S1-116 86-S1-117 86-S1-118** 86-S1-119 86-S1-120	Arsenic Beryllium Copper	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
05D068/ K2502714	86-S1-118**	Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc Antimony Barium	J (all detects) UJ (all non-detects)	P	Internal standards (%R)
05D068/ K2502714	86-S1-116 86-S1-117 86-S1-118** 86-S1-119 86-S1-120	Antimony Barium	None None	Р	Sample result verification

#### Moffett Air Field, Site 1, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG 05D068/K2502714

SDG	Sample	Analyte	Modified Final Concentration	A or P
05D068/ K2502714	86-S1-116	Antimony Beryllium Selenium	0.214U ug/L 0.00118U ug/L 0.44U ug/L	A
05D068/ K2502714	86-S1-117	Antimony Beryllium Selenium	0.204U ug/L 0.00052U ug/L 0.48U ug/L	Α
05D068/ K2502714	86-S1-118**	Antimony Selenium	0.202U ug/L 0.46U ug/L	Α
05D068/ K2502714	86-\$1-119	Antimony Cadmium Selenium Silver	0.252U ug/L 0.0056U ug/L 0.44U ug/L 0.0031U ug/L	А
05D068/ K2502714	86-S1-120	Antimony Selenium Silver	0.312U ug/L 0.54U ug/L 0.0029U ug/L	A

NUMBER 10837

TETRATECH 3230 Columbia Street, Sulte 500 Sen Ditgo, CA 92101 (619) 234-8696

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1835 W. 205th Street Torrance, CA 90501 Tel: (310) 618-8889 ... Fax: (310) 618-0818

Date: 11-03-2005 EMAX Batch No.: 05J036

Attn: Lynn Jefferson

Tetra Tech EC, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 10/06/05. The data reported include:

Sample ID Control # Col Date Matrix Analysis 86-81-137 10/04/05 WATER VOLATILE ORGANICS BY GC/MS J036-01 86-51-124 J036-02 10/04/05 WATER VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS 86-51-125 J036-03 10/04/05 WATER VOLATILE ORGANICS BY GC/MS

PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS

Note: Dissolved Metals in water & waste was subcontracted to Columbia and will be submitted at a later date.

The results are summarized on the following pages.

Please feel free to salt if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director

A



#### **CASE NARRATIVE**

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J036

#### SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Three (3) water samples were received on 10/06/05 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846,  $3^{\rm rd}$  ed.

#### 1. Holding Time

Analytical holding time was met.

#### Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



# SW 50308/82608 VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 05,036 Sample ID: 86-S1-137 Lab Samp ID: J036-01R Lab File ID: RJB377 Ext Btch ID: V094,133 Calib. Ref.: RJD292	vate Oate Oate Oatlu Matri X Mai	Collected: Received: Extracted: Analyzed: tion Factor: ix	10/04/05 10/06/05 10/12/05 23:41 10/12/05 23:41 1 WATER NA
PARAMETERS  1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-S-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 2,-DICHLOROPROPANE 3ROMOMETHANE 3ROMOMETHANE 3ROMOMETHANE 3ROMOMETHANE 3ROMOMETHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROPROPHANE 3LOROP	TSUP: AND DECEMBER OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROP	RL) 55-55-55-55-55-55-55-55-55-55-55-55-55-	######################################
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* : Out of 00
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out



#### SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH EC INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05,036 Sample ID: 86-61-124 Lab Samp ID: J036-02R Lab File ID: RJ0378 Ext 8tch ID: V094J33 Calib. Ref.: RJ0292	Date Date Date Dili Matr % Mc	Collected: Received: Ritracted: Analyzed: Ition Factor: It	10/04/05 10/06/05 10/13/05 00:20 10/13/05 00:20 1 WATER NA
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDt (ug/L)
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JRROGATE PARAMETERS , 2-DICHLOROETHANE-D4 DLUENE-DB ROMOFLUOROBENZENE	% RECOVERY 117 93 96	GC LIMIT 62-139 75-125	• • •
L.: Reporting limit : Out of GC : Exceeded calibration range : Found in Associated method blan : Value between R.L. and MDL : Value from dilution analysis O.: Diluted out	- "	75-125	



# SW 50308/82608 VOLATILE ORGANICS BY GC/MS

VOLATILE ORGAN	=		
Client : TETRA TECH EC INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05.036 Sample ID: 86-91-125 Lab Samp IO: J036-03R Lab File ID: RJD379 Ext Btch ID: V094J33 Calib. Ref.: RJD292	Date Date Date Date Diluti Matri % Mois	Collected:     Received:     Extracted:     Analyzed: ion Factor: sture:	10/64/05 10/06/05 10/13/05 01:00 10/13/05 01:00 1 WATER
	RESULTA	RL) - 5,5-15,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5	B) B) B) B) B) B) B) B) B) B) B) B) B) B
R.L.: Reporting limit * 1 Out of GC * Exceeded calibration cores		لىق: د،	

* : Out of GC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.C. : Diluted out



#### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J036

#### SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Two (2) water samples were received on 10/06/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

#### 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

# 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



# SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client ; TETRA TECH EC INC. Project : MFA SiTE 1, CTO 86 Batch No. : 05J036 Sample D: 86-S1-124 Lab Samp D: J036-02 Lab File ID: RJX079 Ext 8tch ID: SVJ009W Calib. Ref; RIX122	Date Date Date Date Dilut Matri Moi: Instr	sture : :	10/04/05 10/06/05 10/06/05 10/11/05 20:00 10/14/05 15:50 94 WATER 4A 1-042
PARAMETERS  2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4-DINTTROPHENOL 2,4-DINTTROPHENOL 2,4-DINTTROPHENOL 2,4-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROTOLUENE 2,5-DINTTROPHENOL 2,5-DINTTROPHENOL 3,3-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 4,5-DINTTRO-2-METHYLPHENOL 4,5-DINTTRO-2-METHYLPHENOL 4,5-DINTTRO-2-METHYLPHENOL 4,5-DINTTRO-2-METHYLPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 4,5-DINTTROPHENOL 5,5-DINTTROPHENOL 5,5-DINTTROPHENOL 6,5-DINTTROPHENOL 6,		L) :4444000444440044444400444444444444444	### ##################################
SURROGATE PARAMETERS  2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENUL-D14	69 56 44 49 48 88	GC LIMIT 25-134 25-135 25-125 252-125 242-126	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



# SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

	MUNICO DI GOJEI		
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 05J036 Sample ID: 86-S1-125 Lab Samp ID: J036-03 Lab File ID: RJX080 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Matrix % Mois Instru	ture : W ment ID : T	aien à -042
PARAMETERS	RESULTS (ug/L)	(ug/L)	MDL (ug/L)
PARAMETERS  2. 4, 5 TRICHLOROPHENOL 2. 4, 6 TRICHLOROPHENOL 2. 4, -0 TICHLOROPHENOL 2. 4, -0 TIMETHYLPHENOL 2. 4, -0 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 2. 6, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 3. 7, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 4. 6, -1 TIMITROTOLUENE 6. 6, -1 TIMITROTOLUENE 6. 6, -1 TIMITROTOLUENE 6. 6, -1 TIMITROTOLUENE 6. 6, -1 TIMITROTOLUENE 6. 6, -1 TIMITROTO	25555555555555555555555555555555555555	RL) 44449004444004449044444444444444444444	4449954449677777777777777777777777777777
SURROGATE PARAMETERS  2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENVI 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENVI-D14	% RECOVERY 70 61 50 555 89	9C LIMIT 25-134 43-125 25-125 32-125 42-126	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



#### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J036

#### SW3520C/8081A PESTICIDES

Two (2) water samples were received on 10/06/05 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

#### 2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

#### 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

#### 6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All QC criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



#### SW3520C/8081A PESTICIDES

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Project: MFA, SITE 1, CTO 86
Batch No.: 05J036
Sample: ID: 86-S1-124 Date Collected: 10/04/05 Date Received: 10/06/65 Date Extracted: 10/11/05 14:00 Date Analyzed: 10/13/05 15:26 Dilution Factor: .95 Lab Samp 10: J036-02-Matrix : WATER % Moisture : NA Lab File ID: SJ13012A % Moisture Ext Stch ID: CPJ007W Instrument ID : GCT008 Calib. Ref.: SJ13003A 

	RESULTS	RL MDL	
PARAMETERS	(ug/L)	(ug/L) (Ug/L)	
14 15 15 15 15 15 15 15 15 15 15 15 15 15	w = * * * =		
ALPHA-BHC	(ND) ND	.048 .0095 .0095	
GAMMA-BHC (LINDANE)	(ND) ND	.048 .0095 .0095	
SETA-BHC	L1S0. (GM)	.048 .0095 .0095	
HEPTACHLOR	.11 (ND)	.048 .0095 .0095	
DELTA-BHG	(ND) ND	.048 .0095 .0095	
ALDRIN	(ND) ND	.048 .0095 .0095	
HEPTACHLOR EPOXIDE	(ND) ND	.048 .0095 .0095	
GAMMA - CHLORDANE	(ND) ND	.048 .0095 .0095	
ALPHA-CHLORDANE	(ND) ND	.048 .0095 .0095	
FNDOSULFAN I	(ND) ND	.048 .028	
4,41-DDE	(ND) ND	.028[.028	
DIELDRIN	(ND) ND	.19 .095 .095	
ENDRIN	(ND) ND	.095 ,019 .019	
4,41-DDD	(ND) ND	.095 .028 .028	
ENDOSULFAN II	(ND) ND	.019 .019	
4.41-001	CND IND	.095 .019 .019	
ENDRIN ALDEHYDE	(ND) ND	.095 .019 .019	
ENDOSULFAN SULFATE	(ND) ND	.095 .019 .019	
ENDRIN KETONE	(ND) ND	.095 .019 .019	
METHOXYCHLOR	(ND) ND	.48 .095 .095	
TOXAPHENE	(ND) ND	2.8 1.2 1.2	
TOXAFTIENE			
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
**************************************	791(72)	30-130	
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	94 (95)	30-130	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

( ) included the reported column



#### SW3520C/8081A PESTICIDES

2、222.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2	*********		
Client : TETRA TECH EC, INC.		Date Collected:	
Project : MFA, SITE 1, CTO 86		Date Received:	
Batch No. : 05J036		Date Extracted:	
Sample ID: 86-S1-125		Date Ahalyzed:	
Lab Samp ID: J036-03		Dilution Factor:	
Lab Fi(e 1D: SJ13013A		Matrix :	
Ext Btch ID: CPJ007W		% Moisture :	
Calib. Ref.: SJ13003A		Instrument 1D :	
			***===*********
		Ří.	MOL
	RESULTS	(ug/L)	(ug/L)
PARAMETERS	(ug/L)	(ug/t)	(28/7)
	(ND) ND	.048	
ALPHA-BHC	(ND) ND	.048	
GAMMA-BHC (LINDANE)		.048	.0096 .0096
BETA-BHC	(ND) ND	.048	.00961.0096
HEPTACHLOR	3.6 (ND)	.048	.0096 .0096
DELTA-BHC	(ND) ND	.048	1
ALDRIN	(ND) ND	.048	.0096 .0096
HEPTACHLOR EPOXIDE	(ND) ND	.048	.00961.0096
GAMMA-CHLORDANE	(ND) ND	.048	.0096 .0096
ALPHA-CHLORDANE	(ND) ND	.048	.029 .029
ENDOSULFAN !	(NO) NO	.096	.029 .029
4,4'-DDE	(ND) ND	.19	.096 .096
DIELDRIN	(ND) ND		.019 .019
ENDRIN	(ND) ND	.096	.029 .029
4,4'-DDD	(ND) ND	.096	.019 .019
ENDOSULFAN II	(ND) ND	.096	.019 .019
4,41-DDT	(ND) ND	.096	
ENDRIN ALDEHYDE	(ND) ND	.096	\$
ENDOSULFAN SULFATE	(ND) NO	.090. .090.	.019 .019
ENDRIN KETONE	(ND) NO		
METHOXYCHLOR	(ND) ND	.48	
TOXAPHENE	(ND) ND	2.9	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	MIJ 30	
TETRACHLORO-M-XYLENE	(73)   67	30-13	
DECACHLOROBIPHENYL	(97) 96	30-13	30
DECMONTONIONALDERIC	*** * * * * * * * * * * * * * * * * * *	· ·	

RL : Reporting limit Left of | is related to first column ; Right of | related to second column ( ) included the reported column



#### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J036

#### METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Two (2) water samples were received on 10/06/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

#### 1. Holding Time

Analysis met holding time criteria.

#### 2. Method Blank

Method blank was free of contamination at the reporting limit.

#### 3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

#### 4. Serial Dilution / Post-Analytical Spike

Sample J053-10 from another SDG was analyzed for serial dilution and postanalytical spike. All QC requirements were met.

#### 5. Matrix Spike/Matrix Spike Duplicate

MS/MSD sample was not designated in this SDG.

#### 6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were initially analyzed at DF 20 due to matrix interference of high salt level.



DISSOLVED MERCURY BY COLD VAPOR METHOD 7470A

2. E. P. C. C. C. C. C. C. C. C. C. C. C. C. C.	7.57	At the man the top the top top the top top top top top top top top top top	100000000000000000000000000000000000000	DATFINE		10713705	10/13/05	10/13/05	10/08/05	10/06/05
Matrix : WATER	Instrument ID : T1047		20,400,100	DATETIME	1 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	NA.		2 d	10704705	10/04/05
Matrix	Instr			PREP BATCH	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	HC.1013W	HG_1013W	HGJ013W	HEJO13W	HGJ013W
make the the part way, may now you may has been cade				CAL REF		M47J012008	M47J012008		M47J012044	M47J012056
				LFID	\$ 6 8 8	M47J012010	M47J012011	M47J012012	M47J012055	M47J012058
			Extraction	DATETIME	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	10/13/0511:00 M47J012010 M47J012008	10/13/0511:00 M47J012011	10/13/0511:00 M47J012012	10/13/0511:00 M47J012055	10/13/0511:00 M47J012058
			Analysis	CATETIME	2 2 5 6 7 8	10/13/0514:11	10/13/0514:13	10/13/0514:15	10/13/0515:48	10/13/0515:55
		A11 700 IIII A17 -00 aas aa aa aa aa	NO.	(1/Bn)	2 h £	₹.	**	.,	₩ 82	2
			ne ne	(1/6n)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2,	2,	ιń	⟨\$	\$
				DLF MOIST		Z.	æ	*	MA	Z.
		00 00 00 00 00 00 00 00 00 00 00 00 00		DLF	1 4		<b></b>		50	30
			RESULTS	(1/8n)	;	Q.	55.7	un.	CM	Q
TETNA TECH EC, INC.	. 05.036 . 05.036		EHAX	SAMPLE 1D	* * * * * * * *	MCJOUZE	HC1013ML	HG1013MC	1036-02	1036-03
Client . THINA		经转货运输 经转换 医甲状腺 化二甲苯甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲甲		SAMPLE ID	1 4 5 5 7 7 8 8 1 1	#SLK1%		*CO1	86-51-124	86-81-125

RL: Reporting Limit

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 4, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J036

Sample Identification

86-S1-137

86-S1-124

86-S1-125

#### Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

# III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination  $(r^2)$  were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds were within method and validation criteria.

# IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 25.0% for all compounds.

All of the continuing calibration RRF values were within method and validation criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Internal Standards

All internal standard areas and retention times were within QC limits.

# XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

# XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

# XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

# XIV. System Performance

Raw data were not reviewed for this SDG.

## XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

# XVI. Field Duplicates

No field duplicates were identified in this SDG.

# XVII. Field Blanks

Sample 86-S1-137 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Air Field, Site 1, CTO 86 Volatiles - Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

Moffett Air Field, Site 1, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 4, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J036

Sample Identification

86-S1-124 86-S1-125

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Raw data were not reviewed for this SDG. The review was based on QC data.

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- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination ( $r^2$ ) were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all semivolatile target compounds were within method and validation criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/14/05	Bis(2-chloroisopropyl)ether 2,4-Dinitrophenol 4-Nitrophenol Benzo(k)fluoranthene	34.9 33.8 25.5 33.6	All samples in SDG 05J036	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 25.0% for all compounds.

All of the continuing calibration RRF values were within method and validation criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

Raw data were not reviewed for this SDG.

# XII. Compound Quantitation and CRQLs

Raw data were not reviewed for this SDG.

# XIII. Tentatively Identified Compounds (TICs)

Raw data were not reviewed for this SDG.

# XIV. System Performance

Raw data were not reviewed for this SDG.

#### XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

# XVI. Field Duplicates

No field duplicates were identified in this SDG.

#### XVII. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05J036

SDG	Sample	Compound	Flag	AorP	Reason
04J036	86-S1-124 86-S1-125	Bis(2-chloroisopropyl)ether 2,4-Dinitrophenol 4-Nitrophenol Benzo(k)fluoranthene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

Moffett Air Field, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, Site 1, CTO 86

Collection Date: October 4, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J036

Sample Identification

86-S1-124 86-S1-125

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

#### III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

## IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
10/13/05	SJ13003B/4B	RTX-CLPESTII	beta-BHC	19	All samples in SDG 04J036	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

#### VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Pesticide Cleanup Checks

### a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

#### XI. Target Compound Identification

Raw data were not reviewed for this SDG.

#### XII. Compound Quantitation and Reported CRQLs

Raw data were not reviewed for this SDG.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XIV. Field Duplicates

No field duplicates were identified in this SDG.

#### XV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Airfield, Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, Site 1, CTO 86

Collection Date: October 4, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Polychlorinated Biphenyls

Validation Level: EPA Level III

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J036

Sample Identification

86-S1-124 86-S1-125

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

#### III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

### IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

## VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Pesticide Cleanup Checks

# a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

## b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

Raw data were not reviewed for this SDG.

# XII. Compound Quantitation and Reported CRQLs

Raw data were not reviewed for this SDG.

# XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

# XIV. Field Duplicates

No field duplicates were identified in this SDG.

### XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 4, 2005

LDC Report Date: November 14, 2005

Matrix: Water

Parameters: Dissolved Mercury

Validation Level: EPA Level III

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J036

Sample Identification

86-S1-124 86-S1-125

#### Introduction

This data review covers 2 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

#### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

# IV. ICP Interference Check Sample (ICS) Analysis

ICP was not utilized in this SDG.

## V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-128MS/MSD (All samples in SDG 05J036)	Dissolved mercury	*	67 (75-125)	•	J (all detects) UJ (all non-detects)	А

## VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

#### VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## VIII. Internal Standards

ICP-MS was not utilized in this SDG.

# IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

# X. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

# XI. Sample Result Verification

Raw data were not reviewed for this SDG.

# XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

# XIII. Field Duplicates

No field duplicates were identified in this SDG.

## XIV. Field Blanks

No field blanks were identified in this SDG.

## Moffett Air Field, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05J036

SDG	Sample	Analyte	Flag	A or P	Reason
05J036	86-S1-124 86-S1-125	Dissolved mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Air Field, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05J036

No Sample Data Qualified in this SDG

NUMBER 10839 CHAIN-OF-CUSTODY RECORD

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TETRATECH 1230 Columbia Street, Stife 500 San Diego, CA 92101 (619) 134-8696

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COMPANY	TIME	COMPANY			COOLE	COOLER SEAL:		O INTACT	□ BROKEN					
								,			•			

White - Laboratory; Pink - Laboratory; Canary - Project File; Manija - Data Management





1835 W. 205th Street Torrance, CA 90501 Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 11-03-2005 EMAX Betch No.: 05J053

Attn: Lynn Jefferson

Tetra Tech EC, Inc. 1940 E Deere Ave, Suite 200 Santa Ang CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Sample ID	Control #		Matrix	
86-\$1-139 86-\$1-131	J053-01 J053-02	143 42, 00	WATER WATER	VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE
86-\$1-132	J053-03	10/06/05	WATER	SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE
86-91-133	J053~04	10/06/05	WATER	SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS



Sample ID	Control #			
86-51-134	J053-05			VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS
86-\$1-135	J053~06	10/06/05	WATER	
86-\$1-136	J053~07	10/06/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS
86~\$1~138 86~\$1-126	J053-08 J053-09	10/06/05 10/06/05		VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS
86-\$1-128	J053-10	10/06/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS
86-51-129	J053-11	10/06/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS
86-91-130	J053~12	10/06/05	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED





Sample 10	Control #	Col Date	Matrix	Analysis
86-S1-128MS	J053-10M	10/06/05	WATER	DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS)
86-\$1-128MSD	J053-10s	10/06/05	WATER	MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) MERCURY DISSOLVED DISSOLVED METALS IN WATER & WASTE SEMIVOLATILE ORGANICS BY GCMS

Note: Dissolved Metals in water & waste was subcontracted to Columbia and will be submitted at a later date.

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director





#### CASE NARRATIVE

CLIENT:

TETRA TECH EC. INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J053

## SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Twelve (12) water samples were received on 10/07/05 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846,  $3^{cl}$  ed.

## 1. Holding Time

Analytical holding time was met.

## 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

#### 3. Method Blank

Method blanks were free of contamination at the reporting limit.

### 4. Surrogate Recovery

Recoveries were within QC limit.

## 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

## 6. Matrix Spike/Matrix Spike Duplicate

Sample J053-10 was spiked. All recoveries were within QC limit.

## 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



VULATICE UKG			
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample 10: 86-51-139 Lab Samp 10: J053-01N Lab File 10: RJ8278 Ext Btch 10: V003J23 Calib. Ref.: RJ8044	Hatríx % Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	JATER JA F-003
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TRICHLORGETHANE 1,1-DICHLORGETHANE 1,-DICHLORGETHANE 1,-DICHLORGETHANE 1,-DICHLORGETHANE 1,-DICHLORGETHANE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-TRICHLORGENZENE 1,2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLORGETHANE 1,2-DICHLORGETHANE 1,2-DICHLORGETHANE 1,2-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 1,3-DICHLORGENZENE 2,2-DICHLORGENZENE 2,2-DICHLORGENZENE 2,2-DICHLORGENZENE 2,2-DICHLORGENZENE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HOLORGENTANE BROMOGLICROMETHANE BROMOGLICROMETHANE BROMOGLICROMETHANE BROMOGLICROMETHANE BROMOGLICROMETHANE BROMOGLICROMETHANE BROMOGLICROMETHANE CARBON DISULFIDE CABBON TETRACHLORIDE CHLOROPORM CHLOROMETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNETHANE DIGNOGNET			้ เพิ่มนักเกิดเกิดเลือนการเกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิดเกิด
SURROGATE PARAMETERS	% RECOVERY	OC LIMIT	,-
1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	100 102 107	62-139 75-125 75-125	
R.L.: Reporting limit *: Out of QC E : Exceeded calibration range B : Found in associated method bia J : Value between R.L. and MDL	nk		

J : Value between R.L. and MDL
D : Value from dilution analysis
D.C. : Diluted out



VOLATILE URGAN	-		
Client : TETRA TECH EC INC. Project : MFA SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-91-131 Lab Samp ID: J053-02N Lab File ID: RJ8279 Ext Btch ID: V003J23 Calib. Ref.: RJ8044	Date Date Date Date Diluti Matrix % Mois	Dellected: 10 Received: 10 Received: 10 Analyzed: 10 On Factor: 1 ture NA Tent 10 : I+	/86/05 /07/05 /19/05 21:15 /19/05 21:15 FER
PARAMETERS  1,1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROERDENE 1,2-DICHLOROERDENE 1,2-DICHLOROERDENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROERDENE 1,2-DICHLOROERDENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 2,2-DICHLOROERDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROENDANE 2,2-DICHLOROETHANE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENTENACHORE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMOENDENE BROMO	RESULTS (US/L) NO NO NO NO NO NO NO NO NO NO NO NO NO	RL); 5575555555555555555555555555555555555	MDL) MDL MDL MDL MDL MDL MDL MDL MDL

R.L.: Reporting timit
* : Out of OC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86	Date	Collected:	10/06/05 10/07/05
Batch No. : 05J053 Sample   ID: 86-51-132	Date	Extracted: Analyzed:	10/07/05 10/19/05 21:53 10/19/05 21:53
L80 FILE 10: K40200	Matrix	: '	1 WATER
ixt Bich 1D: V003J23 Calib. Ref.: RJ8044	% Mois Instru	ment ID :	NA T-003
36254445600000000000000000000000000000000	20112555555555		
PARAMETERS	RESULTS (ug/L)	(na\r) &r	MD: (ug/L)
1,1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE	CN	.5	4 8
1,1,2,2-TETRACHLOROETHANE	ND ND	'[	* :
1.1-D:CHLOROETHANE 1.1-D:CHLOROETHENE	ND ND	. š	9
	ND ND	.S	*
1.1-DICHLOROPROPENE 1.2,3-TRICHLOROBENZENE 1.2,3-TRICHLOROPROPANE 1.2,4-TRICHLOROBENZENE 1.2,4-TRIMETHYLDERDIZENE 1.2-DIBROMO-3-CHLOROPROPANE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.3-DICHLOROFROPANE 1.3,5-TRIMETHYLBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROBENZENE	ND NO	.5 .5	*
1,2,4-TRIMETHYLBENZENE 1,2-DIBROMO-3-CHLOROPROPANE	GA DN	.5	•
1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE	NO NO	.5 .5	**
1,2-DICHLOROPROPANE 1,3,5-TRIMETHYLBENZENE	ND ON	.5 .5	**
1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE	ND ND	Ğ.	e -
2,2-dichloropropane	ND ND	.5	*
Z-CHLOROTOLUENE	ND ND	10 .5	×
2-HEXANONE 4-CHLOROTOLUENE 4-CHLOROTOLUENE	ND ND	.5	
4-METHYL-2-PENTANONE ACETONE BENZENE	ND ND	10	
BROMOSENZENE BROMOCHLOROMETHANE	ND ND	.5 .5	*
BROMODICHLOROMETHANE BROMOFORM	ND ND	15	1
BROMOMETHANE CARBON DISULFIDE	ND ND	.5	
CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	.5 .5	٠.
CHLOROETHANE CHLOROFORM	ND ND	.5	4 !
CHLOROMETHANE CIS-1,2-DICHLOROETHENE CIS-1,3-DICHLOROPROPENE	ND ND ND	-5	*
DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND ND ND	.5	V
DICHLORODIFLUOROMETHANE ETHYLBENZENE	NÖ ND		*
NEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND	.5 .5	- - - -
M/P-XYLENES METHYLENE CHLORIDE	ND ND	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	ж
N-BUTYLBENZENE N-PROPYLBENZENE	ND ND	.5	
NAPHTHALENE O-XYLENE	ND ND	.5	ė.
P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND	.5	•
STYRENE TERT-BUTYLBENZENE TERT-SOULABOETUSIENE	ON DN CN		
TETRACHLOROETHYLENE TOLUENE TRANS-1,2-01CHLOROETHENE	ND ND	ìś	· ·
TRANS-1,3-0 ICHLOROPROPENE TRICHLOROETHENE	HD NO	18.15	**
TRICHLOROFLUGROMETHANE VINYL CHLORIDE	ON CM	, and and I	4
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLORGETHANE-D4	131	62-130	
TÖLUENE-D8 BROMOFLUOROBENZENE	98 108	75 - 125 75 - 125	

* : Out of GC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MOL
D : Value from dilution analysis
D.O. : Diluted out



VOLATILE ORGANI	CS BY GC/MS		
Cilent : TETRA TECH EC, INC. Project : MFA, SIYE 1, CtO 86 Batch No.: 053053 Sample : 10: 86:\$1-133 Lab Samp ID: J053-04N Lab File 10: R88281 Ext Btch 10: V003J23 Calib. Ref.: RJ8044	Date Date Date Date Diluti Matrix 1 Mois Instru	Received: 1 Extracted: 1 Analyzed: 1 ion Factor: 1 ( : W Sture : N Iment ID : T	ATER A -003
PARAMETERS  1.1,1.2.TETRACHLOROETHANE 1.1,1.TRICHLOROETHANE 1.1,2.TRICHLOROETHANE 1.1,2.TRICHLOROETHANE 1.1.DICHLOROETHANE 1.1.DICHLOROETHANE 1.1.DICHLOROETHANE 1.1.DICHLOROETHANE 1.1.DICHLOROETHANE 1.2.S.TRICHLOROBENZENE 1.2.S.TRICHLOROBENZENE 1.2.TRICHLOROBENZENE 1.2.TRICHLOROBENZENE 1.2.DICHLOROBENZENE 1.2.DICHLOROBENZENE 1.2.DICHLOROBENZENE 1.2.DICHLOROBENZENE 1.3.S.TIMETHYLBENZENE 1.3.S.DICHLOROBENZENE 1.3.S.TIMETHYLBENZENE 1.3.DICHLOROBENZENE 1.3.DICHLOROBENZENE 1.3.DICHLOROBENZENE 1.3.DICHLOROBENZENE 1.3.DICHLOROPROPANE 1.4.DICHLOROPROPANE 1.4.DICHLOROPROPANE 1.4.DICHLOROPROPANE 1.4.DICHLOROMETHANE 1.3.DICHLOROMETHANE RVES  NED NOD NOD NOD NOD NOD NOD NOD NOD NOD NO	RL) 5575555555555555555555555555555555555	MAL.	
E Exceeded calibration range B Found in associated method blank J Value between R.L. and MDL D Value from dilution analysis D.O. Diluted out			



VOLATILE ORGA	NICS BY GC/MS		
Cilent : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-134 Lab Samp ID: J053-05N Lab File ID: JB282 Ext Btch ID: V003J23 Calib. Ref.: RJB044	Dilutio Matrix % Moist Instrum	Collected: Received: Extracted: Analyzed: on factor: Ture	WATER NA T-003
PARAMETERS  1,1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETICHLORGETHANE 1,1,2-TETICHLORGETHANE 1,1-DICHLOROPTHENE 1,2-DICHLOROPROPANE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIGHLYLBENZENE 1,2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,4-DICHLOROPROPANE 1,4-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANONE 2-EXAMONE 4-CHLOROTOLUENE 2-HEXAMONE 4-CHLOROTOLUENE 2-HEXAMONE 4-METHYL-2-PENTANONE ACCTONE BROMOGENZENE BROMOGENAME BROMOGENAME CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROFTANE CHLOROFTANE CHLOROFTANE CHLOROFTANE CHLOROFTANE CHLOROFTANE CHLOROMETHANE DISHLFIDE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE BROMOGENZENE ETHYLBENZENE HEXACHLOROBETANE LISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE TETRACHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRETERACHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROFTHONE TRICHOROPROPENE TRICHOROPROPENE TRICHLOROPROPENE TRICHOROPROPENE T	TS 19/1.  NO NO NO NO NO NO NO NO NO NO NO NO NO N	RL) 55555555555555555555555555555555555	BL) - REPARTEMENT REPARTEMENT - NEW ANDREAST AND AND AND AND AND AND AND AND AND AND
R.L.: Reporting limit * : Out of QC F : Excepted calibration range			

* : Dut of GC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-135 Lab Samp IO: J053-06N Lab Fite ID: RJ8283 Ext 8tch ID: V003J23 Caib. Ref.: RJ8044	Date Date Date Date Dilut Matri % Moir Instri	Collected: Received: Extracted: Analyzed: ion Factor:  ture: Jument ID:	10/07/05 10/19/05 23:47 10/19/05 23:47 1 MATER NA T-003
PARAMETERS  1.1,2-TETRACHLOROETHANE 1.1,2-TETRACHLOROETHANE 1.1,2-TETRACHLOROETHANE 1.1,2-TETCHLOROETHANE 1.1,2-TETCHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROPOPOPENE 1.2,3-TETCHLOROBENZENE 1.2,4-TETMETHYLBENZENE 1.2-DIBROMO-3-CHLOROPROPANE 1.2,4-TEMETHYLBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-DICHLOROPROPANE 2-BUTANONE 2-HEXANONE 4-CHLOROTOLUENE 2-NEXANONE 4-CHLOROTOLUENE 2-NEXANOME 4-METHYL-2-PENTANONE ACETONE BROMOGORM BROMOMETHANE CARBON 1ETRACHLORIDE CHLOROETHANE CHLOROETHANE CHLOROETHANE CHLOROETHANE CIS-1,2-DICHLOROPROPENE DIBROMOCHLOROMETHANE DICHLOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DISHOROMETHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICH	REST. 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SURROGATE PARAMETERS 1,2-DICHLOROEYHANE-D4 TOLLENE-D8 BROMOFLUOROBENZENE	% RECOVERY 135 98 109	0C LIMIT 62-139 75-125 75-125	

B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-136 Lab Samp ID: J053-07 Lab File ID: RJ0485 Ext Btch ID: V005J40 Calib. Ref: R10499	Date Date Date Date Dilut Matri % Mois Instri	Collected: Received: Received: Extracted: Analyzed: ion Factor: iture !	VATER NA T-005
PARAMETERS  1,1,1,2-TETRACHLORGETHANE 1,1,1-TRICHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TETRACHLORGETHANE 1,1,2-TRICHLORGETHANE 1,1,2-TRICHLORGETHENE 1,1-DICHLOROFTHENE 1,2-DICHLOROPROPANE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIGHTHYLBENZENE 1,2-DIGHLOROPROPANE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-HEXANONE 4-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 2-HEXANONE 4-METHYL-2-PENTANONE ACETONE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOFORM BROMOMETHANE CARBON DISULFIDE CABBON TETRACHLORIDE CHLOROEMZENE CHLOROEMZENE CHLOROFORM CHLOROFORM CHLOROFORM CHLOROPOPHNE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPPOPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLORO	TS)  REVIOLENT STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STATE STA	&/, &/, \$/, \$/, \$/, \$/, \$/, \$/, \$/, \$	L)) WARANARANA TARANARANA MARANARANA MARANARANA MARANARANARANA MARANARANARANARANARANARANARANARANARANARA
SURROGATE PARAMETERS  1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUGROBENZENE	% RECOVERY 124 101 99	QC LIMIT 62-139 75-125 75-125	
R.L.; Reporting limit * : Out of QC E : Exceeded calibration range 8 : Found in associated method blan J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	k		



Client : TETRA TECH ECL INC.  Date Collected: 10/06/05 Batch No. : 03/05 E 1, CTO 86 Batch No. : 03/05 E 1, CTO 86 Batch No. : 03/05 E 1, CTO 86 Batch No. : 03/05 E 1, CTO 86 Batch No. : 03/05 E 1, CTO 86 Batch No. : 03/05 B 2	AOCHITE OMBANIE	•		
PARAMETERS	Client : TETRA TECH EC, INC, Project : MFA SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-138 Lab Samp ID: J053-08 Lab Fite ID: RJ0486 Ext Bich ID: V005J40 Calib. Ref.: RIQ499	Date Date Date Date Diluti Matrix % Mois Instru	Collected: 10/06, Received: 10/07, Extracted: 10/16, Analyzed: 10/16, on Factor: 1  ture : NA ment ID : T-005	/05 /05 /05
D.G. t Griuted out	1,1,2-YETRACHLOROETHANE 1,1-TRICHLOROETHANE 1,1-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,1-DICHLOROPROPENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-TRICHLOROPROPANE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROPTOPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPPANE 1,2-DICHLOROPPANE 1,2-DICHLOROPPANE 1,3-DICHLOROPPANE 2-HEXANONE 2-HEXANONE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE 2-HEXANONE 4-CHLOROFOLUENE BROMOMETHANE BROMOMETHANE CARBON DISULFIDE CHLOROFORM CHLOROPETHANE CIS-1,2-DICHLOROPROPENE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DICHLOROPILIOROMETHANE ETHYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROMETHANE TICHLOROFULOROM		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	): NIMANANANATAMANANANANANANANANANANANANANANA



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10/06/05 10/07/05 10/16/05 09:14 10/16/05 09:14 10/16/05 09:14 WATER NA T-005	Analyzed: ion Factor: x :	Date Date Dilut Matri % Moi	Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05.053 Sample 10: 86-S1-126 Lab Samp IO: J053-09 Lab File ID: RJ0487 Ext Btch ID: V005J40 Calib. Ref.: R10499
MDL (ug/L)	RL (ug/L)	RESULTS (ug/L)	PARAMETERS
22272	ָהָיָרִייָּרָטָנִג הַיָּהְיִרְיָּהָנִגִּ	ND ND ND ND ND	1,1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,2,2-TETRACHLOROETHANE 1,2-TRICHLOROETHANE 1,1-BICHLOROETHANE 1,1-BICHLOROETHANE

1,2,2-TEINACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 2,2-DICHLOROPROPANE 2-BUTANONE 2-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 2-HEXANONE 4-CHLOROFOLMENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOGENZENE CHLOROFORM CHLOROMETHANE CHLOROFTHANE CHLOROFTHANE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE DIBROMOGHLOROMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOGHETHANE CIS-1,3-DICHLOROPROPENE DIBROMOGHETHANE CIS-1,3-DICHLOROPROPENE DIBROMOGHETHANE CIS-1,3-DICHLOROPROPENE DIBROMOMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOMETHANE 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% RECOVERY SURROGATE PARAMETERS
1,2-DICHLOROETHANE-D4
TÔLUENE-D8
BROMOFLUOROBENZENE QC LIMIT 122 101 102

R.L.: Reporting limit
* : Out of 00
E : Exceeded calibration range
B : Found in associated method blank
I : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out



VOLATILE ORGANI	ICS BY GC/MS		
Client: TETRA TECH EC, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05J053 Sample: ID: 86-S1-128 Lab Samp ID: J053-10 Lab File ID: RJ0488 Ext Btch ID: V005J40 Calib. Ref.: R19499	Date Date E Date Dilutio Matroist Instrum	ollected: Received: Atracted: Analyzed: In Factor: Sure : Internal ID	10/06/05 10/07/05 10/16/05 09:52 10/16/05 09:52 1 MATER NA 17-005
PARAMETERS  1.1,1.2-TETRACHLOROETHANE 1.1,1.7 RICHLOROETHANE 1.1,2.7 TICHLOROETHANE 1.1,2.7 TICHLOROETHANE 1.1,2.7 TICHLOROETHANE 1.1,2.7 TICHLOROETHANE 1.1,2.7 TICHLOROETHANE 1.1,3.7 TICHLOROPROPENE 1.2,3.7 TICHLOROPROPENE 1.2,3.7 TICHLOROPROPANE 1.2,4.7 TICHLOROBENZENE 1.2,4.7 TICHLOROBENZENE 1.2,4.7 TICHLOROBENZENE 1.2,5.7 TIMETHYLBENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROFROPANE 1.2-DICHLOROFROPANE 1.3,5.7 TIMETHYLBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 2BUTANONE 2GILOROTOLUENE 4METHYL-2-PENTANONE 4CHLOROTOLUENE 4METHYL-2-PENTANONE ACETONE BENZENE BROMOGENTANE GROMOFORM BROMOMETHANE GROMOFORM BROMOMETHANE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE DISHLOROPPLE CHLOROFORM CHLOROMETHANE DISHLOROPPLE DIBROMOCHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROPPLE DIBROMOCHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE DISHLOROMETHANE CHLOROBENZENE N-PROPYLBENZENE TERT-BUTYLBENZENE	RESULTS	RL> - 54 5.5 55 55 55 55 55 55 55 55 55 56 50 50 50 55 55 55 55 55 55 55 55 55 55	



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-129 Lab Samp ID: J053-11 Lab File ID: RJ0489 Ext 8tch ID: V005J40 Calib. Ref.: RI0499	Date Date Date Diluti Matrix % Mois	on Factor:	
PARAMETERS	RESULTS	RL	MDL
	(ug/L)	(ug/L)	(ug/L)

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PARAMETERS  1.1, 2. TETRACHLOROETHANE 1.1, 2. TETRACHLOROETHANE 1.1, 2. TETRACHLOROETHANE 1.1, 2. TETRACHLOROETHANE 1.1, 1.1 CICHLOROETHANE 1.1, 1.1 CICHLOROETHANE 1.1, 1.1 CICHLOROETHANE 1.1, 1.1 CICHLOROETHANE 1.1, 1.1 CICHLOROETHENE 1.2, 3. TRICHLOROBENZENE 1.2, 3. TRICHLOROBENZENE 1.2, 4. TRIMETHYLBENZENE 1.2, 1. TRIMETHYLBENZENE 1.2, 1. TRIMETHYLBENZENE 1.2, 1. CICHLOROEDNZENE 1.2, 1. CICHLOROEDNZENE 1.3, 5. TRIMETHYLBENZENE 1.3, 1. CICHLOROENZENE 1.3, 1. CICHLOROENZENE 1.4, 1. CICHLOROENZENE 1.4, 1. CICHLOROENZENE 2.2, 1. CICHLOROENZENE 2.2, 1. CICHLOROENZENE 2.2, 1. CICHLOROENZENE 2. LA CHLOROTOLUENE 2. HEXANONE 4. METHYL 2. PENTANONE 4. CHLOROTOLUENE 4. METHYL 2. PENTANONE 4. CHLOROTOLUENE 4. METHYL 2. PENTANONE 4. CHLOROFORM BROMOBENZENE BROMOCHLOROMETHANE BROMOCHLOROMETHANE BROMOCHLOROMETHANE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON D		؞ ؞ ؞ ئەنسىنىئىئىنىنىئىئىئىئىئىئىئىئىئىئىئىئىئىئ	กับกับกับกับกับกับกับกับกับกับกับกับกับก
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
	128 101	62-139	
1,2-DICHLOROETHANE-D4 TOLUENE-D8 8ROMOFLUOROBENZENE	101 100	62-139 75-125 75-125	
I and the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second			

R.L.: Reporting limit
* : Out of GC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample 10: 86-S1-130 Lab Samp ID: J053-12 Lab File ID: RJ0490 Ext Btch ID: V005J40 Calib. Ref.: RIQ499	Date Pate Date Diluti Matrix % Matrix % Matrix	Collocted: 10 Received: 10 Extracted: 10 Analyzed: 10 on Factor: 1 ture: NA ment 10 : T-	/07/05 /16/05 11:07 /16/05 11:07 .TER .005
PARAMETERS  1, 1, 2-TETRACHLOROETHANE 1, 1, 1-TRICHLOROETHANE 1, 2, 2-TETRACHLOROETHANE 1, 2, 2-TETRACHLOROETHANE 1, 2-TETRACHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 2, 3-TRICHLOROBENZENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 4-TRIGHLOROBENZENE 1, 2, 1-TRICHLOROPROPANE 1, 2-DICHLOROETHANE 1, 2-DICHLOROETHANE 1, 2-DICHLOROETHANE 1, 2-DICHLOROETHANE 1, 2-DICHLOROETHANE 1, 3-DICHLOROETHANE 2, 2-DICHLOROETHANE 2-HEXANONE 2-HEXANONE 2-HEXANONE 3-HEXANONE 3-HEXANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PENTANONE 4-METHYL 2-PE	TS./L/. SUB/LINE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE NO DE N	RZI SI SI SI SI	MOL.
SURROGATE PARAMETERS  1,2-DICHLOROETHANE-D4 TOLLENE-DB BROMOFLUOROBENZENE R.L.: Reporting limit * : Out of GC	% RECOVERY 121 101 99	62-139 75-125 75-125	

E : Exceeded calibration range 8 : Found in associated method blank 3 : Value between R.L. and MDL 5 : Value from dilution analysis D.C. : Diluted out



#### **CASE NARRATIVE**

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J053

#### SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Ten water samples were received on 10/07/05 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

## 2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

#### 4. Surrogate Recovery

Recoveries were within QC limit.

## 5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

#### 6. Matrix Spike/Matrix Spike Duplicate

Sample J053-10 was spiked. All recoveries were within QC limit.

## 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

The last internal standard in sample J053-12 in both 1X and 2X analyses were out of QC, probably due to matrix interference. Both sets of results were reported.



SEMI VULATILE UP			
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1-131 Lab Samp ID: J053-02 Lab File ID: RIX085 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Date L Date Date Dilutio Matrix % Moter	Dollected: 10 Received: 10 Extracted: 10 Analyzed: 10 on Factor: .9 Eure : NA	705/05 707/05 711/05 20:00 714/05 18:23 4 TER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-DICHLOROPHENOL 2.4DIMETHYLPHENOL 2.4DIMITROPHENOL 2.4DIMITROPHENOL 2.4DIMITROPHENOL 2.4DIMITROPHENOL 2.4DIMITROPHENOL 2.4DIMITROPOLUENE 2.6DIMITROPOLUENE 2.6DIMITROPOLUENE 2.CHLOROPHENOL 2.METHYLPHENOL 2.METHYLPHENOL 2.MITROPHENOL 2.MITROPHENOL 3.3'-DICHLOROBENZIDINE 3.MITROPHENOL 4.5-DIMITRO-Z-METHYLPHENOL 4.5-DIMITRO-Z-METHYLPHENOL 4.6-CHLOROANILINE 4.6-CHLOROANILINE 4.6-CHLOROANILINE 4.CHLOROANILINE 4.CHLOROANILINE 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 6.1S(Z-CHLOROETHYL)ETHER 6.1S(Z-CHLOROETHYL)ETHER 6.1S(Z-CHLOROETHYL)ETHER 6.1S(Z-CHLOROETHYL)ETHER 6.1S(Z-CHLOROETHYL)ETHER 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-CHLOROETHANE 6.1S(Z-		\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	77774467777467777777777777777777777777
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 PL-Reporting Limit	% RECOVERY  60 52 44 52 47 79	95 LIMIT 25 - 134 43 - 125 25 - 125 25 - 125 42 - 126	



Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05.055 Sample ID: 86-S1-132 Lab Samp ID: J053-03 Lab Fite ID: RJX086 Ext Btch ID: SUJ009W Calib. Ref.: RIX122	Date Date Date Date Dilutix Matrix	Received: 10/07 Extracted: 10/07 Extracted: 10/14 Analyzed: 10/14 on Factor: 1 ture : NA	705 705 705 20:00 705 18:49
PARAMETERS  2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DINTENDENOL 2,4-DINTENDENOL 2,4-DINTENDENOL 2,4-DINTENDENOL 2,4-DINTENDENOL 2,4-DINTENDENOL 2,4-DINTENDOLUENE 2,6-DINTENDOLUENE 2,6-DINTENDOLUENE 2-CHLOROPHENOL 2-NITROANILINE 2-NITROANILINE 3-NITROANILINE 3-NITROANILINE 4,6-DINTEND-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROPHENOL ACENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(B)FLUORANTHENE BENZO(G, H, I)PERYLENE BIS(2-CHLOROFTHYY) BETHANE BIS(2-CHLOROFTHYY) BETHANE BIS(2-CHLOROFTHYY) STHER BIS(2-CHLOROFTHYY) PHENYLETHER BIS(2-CHLOROFTHYY) PHENALATE DIN-DUTYLPHTHALATE DIN-DUTYLPHTHALATE DIN-DUTYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIBENZOFURAN DIETHYLPHTHALATE DIMETHYLPHTHALATE	1 24 6 5 23 1	mont III + 1-042	######################################
HEXACHLORDETHANE INDENO(1,2,3-CD)PYRENE ISOPHORONE N-MITROSODIPHENYLAMINE N-MITROSODIPHENYLAMINE (2) NITROSENZENE PENTACHLOROPHENOL PHENANTHREME PHENOL PYRENE 1,1-BIPHENYL ACETOPHENONE ATRAZINE BEWZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND ND ND ND ND ND ND ND ND ND	10 10 10 10 20 20 20 10 10 10 10	(A. P. P. P. P. P. P. P. P. P. P. P. P. P.
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14  RL: Reporting Limit	% RECOVERY  70 61 46 55 52 89	QC LIMIT 25-134 43-125 25-125 32-125 32-125 42-126	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



SEMI VOLATILE ORGA			
Client : TETRA ECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05,363 Sample ID: 86-51-133 Lab Samp ID: J053-04 Lab File ID: RJX087 Ext Btch ID: SVJ009W Calib, Ref.: RIX122	pate c Date Date E Date Dilutio Matrix % Moist	Analyzed: 10/ Analyzed: 10/ Analyzed: 10/ In Factor: .9/ I WA	07/05 11/05 20:00 11/05 19:14 ER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4-0-INETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.5-DIMITROTOLUENE 2.CHLOROMAPHTHALENE 2.CHLOROMAPHTHALENE 2.CHLOROMAPHTHALENE 2.MITROANILINE 2.MITROANILINE 2.MITROANILINE 3.3-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 4.NITROANILINE 4.5-DIMITRO-2-METHYLPHENOL 4.BROMOPHENYL-PHENYL ETHER 4.CHLORO-3-METHYLPHENOL 4.CHLOROANILINE 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.MITROPHENOL ACENAPHTHENE ACENAPHTHYLENE ANTIRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(G, H, 1)PERYLENE BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)E	였었다면 모든 모든 모든 모든 모든 모든 모든 모든 모든 모든 모든 모든 모든	9999 1111.444.4994.444.994.444.444.444.4999.99999 999999 999999 999999 999999 999999	\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$\$
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL	% RECOVERY	QC LIMIT 25-134 43-125	
2-fluorosiphenyl 2-fluorosiphenol Nitrobenzeme-05 PHENOL-D5 TERPHENYL-014	61 52 60 55 91	43-125 25-125 32-125 25-125 42-126	



SEMI VOLATILE ORG			5 T T T T T T T T T T T T T T T T T T T
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-S1 134 Lab Samp ID: J053-05 Lab File ID: RJX088 Ext 8tch ID: SVJ009W Calib. Ref.: RIX122	Date Date Date Date Date Dilutio Matrix % Motor	Received: 10/6 Extracted: 10/1 Analyzed: 10/1 on Factor: .97 WATE	7/05 1/05 20:00 4/05 19:39 R
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,0-INITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-METHYLPHENOL 2-MITROANILINE 2-MITROANILINE 3,3'-DICHLOROBENZIDINE 3-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-NITROANILINE 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 5-NITROPHENOL 6-NITROPHENOL	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	999977899999899978999999999999999999999	
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL	% RECOVERY	QC LIMIT 25-134 43-125	
2.4.6-TRIBROMOPHENOL 2-FLUGROBIPHENYL 2-FLUGROPHENOL MITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	59 53 60 54 86	25-125 32-125 32-125 25-126 42-126	

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine



	ANICS BY GC/MS		
Client : TETRA TECH EC, INC. Project : MFA SITE 1, CTO 86 8atch No. : 05J053 Sample ID: 86-S1-135 Lab Samp ID: J053-06 Lab File ID: RJX089 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Date E Date E Date Dilutio Matrix % Moist	Received: 10/ xtracted: 10/ Analyzed: 10/ n Factor: .94 	57/65 11/05 20:00 14/05 20:05 ER
PARAMETERS	RESULTS (ug/L)	(ug/L) &L	MDL (ug/L)  4.7
2.4.5-TRICHLOROPHENOL 2.4-0-ICHLOROPHENOL 2.4-0-ICHLOROPHENOL 2.4-0-INTTROPHENOL 2.4-0-INTTROPOLUENE 2.6-DINTTROTOLUENE 2.6-DINTROPOLUENE 2.6-DINTROTOLUENE 2.6-DINTROTOLUENE 2.CHLORONAPHTHALENE 2.CHLORONAPHTHALENE 2.CHLOROPHENOL 2.NITROPHENOL 3.3'-0-ICHLOROBENZIDINE 3.NITROPHENOL 3.3'-0-ICHLOROBENZIDINE 3.NITROPHENOL 4.SNITROPHENOL 4.SNITROPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.CHLORO-3-METHYLPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENOL 4.CHLOROPHENOL 4.CHLOROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.CENAPHTHENE 4.NITROPHENOL 4.CENAPHTHENE BENZO(A)PAYRENE BENZO(A)PAYRENE BENZO(A)PAYRENE BENZO(A)PAYRENE BENZO(A)PAYRENE BENZO(A)PAYRENE BENZO(C)PETHYLPETHEN BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-CHLOROETHYL)FITHER BIS(2-ETHYLHEXYL)PHTHALATE CHRYSENE DI-N-EUTYLPHTHALATE DI-N-EUTYLPHTHALATE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(BENZENE HEXACHLOROCTHANE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI	- 동생동 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등 등	9999 11994444994449944449444444499999999	777744677777677774677777777777777777777
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 62 64 55 63 55	QC LIMIT -25-134 45-125 25-125 32-125 25-125 42-126	



	seito di dejino		
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05/J053 Sample ID: 86-S1-136 Lab Samp ID: J053-07 Lab File ID: RJX090 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Date Date Date Date Diluti Matrix Moisi	Received: 10/07 Extracted: 10/11 Analyzed: 10/14 on Factor: .95 EWATER THE TOTAL TOTAL THE TOTAL	/05 /05 20:00 /05 20:30
PARAMETERS  2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DINTTROPHENOL 2,4-DINTTROPHENOL 2,4-DINTTROTOLUENE 2,6-DINTTROTOLUENE 2,6-DINTTROTOLUENE 2,6-DINTTROTOLUENE 2,6-DINTTROTOLUENE 2,6-DINTROTOLUENE 2,6-DINTROTOLUENE 2,6-DINTROPHENOL 2,METHYLPHENOL 2,METHYLPHENOL 2,MITROPHENOL 3,3'-DICHLOROBENZIDINE 3,1'-DOINTROP-ENTL 4,6-DINTROP-2-METHYLPHENOL 4,BROMOPHENYL-PHENYL ETHER 4,6-DINTROP-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4,CHLORO-3-METHYLPHENOL 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL ACENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(B)FLUGRANTHENE BENZO(B)FLUGRANTHENE BENZO(B)FLUGRANTHENE BENZO(B)FLUGRANTHENE BENZO(B)FLUGRANTHENE BENZO(B)FLUGRANTHENE BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)PHTHALATE DI-N-BUTYLPHTHALATE DI-	RESULTATION OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF	RL) 85559995555995555995555595555555555555	U
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENOL NITROBENZEME-D5 PHENOL-D5 TERPHENOL-D14	% RECOVERY 70 65 52 57 58 87	25-134 43-125 25-125 32-125 42-126	

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Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-51-126 Lab Samp ID: J053-09 Lab File ID: RJX091 Ext Stch ID: SVJ009W Calib. Ref.: RIX122	Date ( Date   Date   Diluti Matrix % Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	19/06/05 10/07/05 10/11/05 20:00 10/14/05 20:56 1 WATER NA T-042
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DINTEROPHENOL 2,4-DINTEROPHENOL 2,4-DINTEROFOLUENE 2,6-DINTEROFOLUENE 2,6-DINTEROFOLUENE 2,6-DINTEROFOLUENE 2,6-DINTEROFOLUENE 2,6-DINTEROFOLUENE 2-CHLOROPHENOL 2-MITHYLPHENOL 2-MITHYLPHENOL 2-MITHYLPHENOL 3,31-DICHLOROBENZIDINE 3-NITROANILINE 3-NITROANILINE 4,6-DINTERO-3-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-NITROPHENOL ACENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(B)FLUORANTHENE BENZO(G, H, I)PERYLENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROET	였으면 보고 보고 보고 보고 보고 보고 보고 보고 보고 보고 보고 보고 보고	10 10 10 20 20 10 10 10 20 10 10 10 10 10 10 10 10 10 10 10 10 10	55500000000000000000000000000000000000
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL MITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 666 62 50 58 53	25-125 43-125 32-125 32-125 42-126	



SEMI VOLATILE UNG	~~~~~~	::::::::::::::::::::::::::::::::::::::		******
Client : YETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86-51-128 Lab Samp ID: J053-10 Lab File ID: RXG82 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Date Date Date Dilution Matrix % Moisi	Received: Extracted: Analyzed: on Factor:	10/07/05 10/11/05 10/14/05 10/14/05 .95 WATER NA T-042	20:00 17:07
PARAMETERS	RESULTS (ug/L)	RL (ug/l)		MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROPHENOL 2-METHYLPHENOL 2-MITROPHENOL 3,3-DICHLOROBENZIDINE 3,1-TROANILINE 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL ACENAPHTHENE ACENAPHTHYLENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(CA)PYRENE BENZO(CA)PYRENE BENZO(CA)PYRENE BENZO(CA)PYRENE BENZO(CA)PYRENE BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROST	얼맞고얼맞은도맞으로맞도되었는 모양한 경향한 경영한 구현 경영한 전환 경영한 경영한 경영한 경영한 경영한 경영한 경영한 경영한 경영한 경영한	\$\$\$\$\$999555599555559955555555555555555		888855788887888856888888888888888888888
SURROGATE PARAMETERS  2.4,6-TRIBROMOPHENOL 2-FLUOROBIPHENOL 1-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 65 65 58 66 59 83	QC LIM 25-12 43-12 25-12 25-12 42-12	ila	



SEMI ANCESTED OWN			
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 054053 Sample ID: 86-S1-129 Lab Samp ID: 4053-11 Lab File ID: RJX092 Ext Btch ID: SV4009W Calib, Ref.: RIX122	uate Date Date Date Diluti Matrix % Mois	Received: Received: Extracted: Analyzed: on Factor: ::ture ::::::::::::::::::::::::::::::::::::	10/07/05 10/07/05 10/11/05 20:00 10/14/05 21:21 .94 WATER NA 1-042
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MD( (ug/L)
2,4,5-TRICHLOROPHENOL 2,4-6-TRICHLOROPHENOL 2-CHLOROPHENOL 2-CHLOROPHENOL 2-MITROANILINE 3-NITROANILINE 4-6-TRICHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-CHLOROPHENOL 4-MITROPHENOL 10-HITROPHENOL -PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-PROPYLAMINE 10-HITROSO-DI-N-P		444499444494444944449444444444499999999	777744677774677777777777777777777777777
SURROGATE PARAMETERS	% RECOVERY	QC LIMI	
2,4,6-TRIBROMOPHENGL 2-FLUOROBIPHENYL 2-FLUOROPHENGL NITROBENZENE-D5 PHENGL-D5 TERPHENYL-D14 RE: Reporting Limit	68 65 55 64 58 87	25 - 134 43 - 125 25 - 125 32 - 125 25 - 125 42 - 126	



SEMI VOLATĪLĒ ÖRGANĪCS BY GC/MS				
Client : TETRA TECH EC INC. Project : MFA SITE 1, CTO 86 Batch No. : 05J053 Sample ID: 86 * S1 * I30 Lab Samp ID: J053 * I2 Lab File ID: RJ053 * I2 Lab File ID: RJ093 Ext Btch ID: SVJ009W Calib. Ref.: RIX122	Date Date Date Date Diluti Matrix Instru	Collected: Received: Received: Extracted: Analyzed: on Factor: sture ment ID	10/06/05 10/07/05 10/11/05 20:00 10/14/05 21:46 1.01 JATER VA 1-042	
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/l)	
2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DINETHYLPHENOL 2.4-DINETHYLPHENOL 2.4-DINETRYLPHENOL 2.4-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-DINETROTOLUENE 2.6-METHYLPHENOL 2.6-METHYLPHENOL 2.6-METHYLPHENOL 3.3'-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 4.0-DINETROANILINE 4.6-DINETROANILINE 4.6-DINETROANILINE 4.6-CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL ACENAPHTHENE ANTHRACENE BENZO(A)PAYENE BENZO(A)PAYENE BENZO(A)PAYENE BENZO(A)PAYENE BENZO(A)PAYENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)ETHER BIS(2-CHLOROSTHYL)FTHALATE CHRYSENE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE PLUORANTHENE FLUORENE HEXACHLOROPETHANE INDEMO(1, 2, 3-CO)PYRENE ISOPHOROME N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N		100 100 200 100 100 100 100 100 100 100	50000000000000000000000000000000000000	
SURROGATE PARAMETERS  2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-05 PHENOL-D5 TERPHENYL-D14	% RECOVERY 73 75 67 79 71 106	25-134 43-125 25-125 32-125 32-125 42-126		



	ROABICS DI BEF			
Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05.053 Sample ID: 86-S1-130RE Lab Samp ID: J053-12W Lab File ID: RJX097 Ext Btch ID: SVJ009W Cglib. Ref.: RIX122	Date Date Date Date Dilut Matri: % Moi: Instr	Collected:     Received:     Received:     Extracted:     Analyzed:     ion Factor:     x sture     ment 10	10/06/05 10/07/05 10/11/05 10/17/05 2.02 WATER NA T-042	20:60 13:08
	RESULTS.	200 200 200 200 200 200 200 200 200 200	.)	== MD/- 10002020000000000000000000000000000000
1,1°BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND ND ND ND	20 20 20 40 20 20		10 20 10 10
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-05 PHENOL-05 TERPHENYL-014	% RECOVERY  43 44 37 40 39 55	QC_LIMIT 25-134 43-125 25-125 32-125 25-125 42-126		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine



#### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J053

#### SW3520C/8081A PESTICIDES

Ten (10) water samples were received on 10/07/05 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

#### 1. Holding Time

Analytical holding time was met.

## 2. Instrument Performance and Calibration

Initial calibration was at five points for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and mean recoveries were within 85-115%.

Endrin and DDT breakdown were within QC limit.

#### 3. Method Blank

Method blank was free of contamination at the reporting limit.

### Surrogate Recovery

Recoveries were within QC limit.

#### 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limit.

## 6. Matrix Spike/Matrix Spike Duplicate

Sample J053-10 was spiked. All recoveries were within QC limit.

#### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



#### SW3520C/8081A PESTICIDES.

Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-S1-131 Date Analyzed: 10/13/05 22:11
Lab Samp ID: J053-02 Dilution Factor: .99
Lab File ID: S1/3028A Matrix : WATER Matrix : WATER % Moisture : NA Lab File ID: SJ13028A Ext Bich ID: CPU007W % Moisture Catib. Ref.: SJ13019A Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)		MDL (ug/L)
ALPHA-BHC	.017J (ND)	.05	.0099[.0099
GAMMA-BHC (LINDANE)	(ND) ND	.05	.0099 .0099
BETA-BHC	(ND) ND	.05	.0099 .0099
HEPTACHLOR	5.1 (ND)	.05	.0099 .0099
DELTA-BHC	(ND) ND	, 05	.0099 .0099
ALDRÍN	(ND) ND	.05	.0099 .0099
REPTACHLOR EPOXIDE	(ND) ND	. 05	.0099 .0099
GAMMA - CHLORDANE	ON (ON)	.05	.0099 .0099
ALPHA-CHLORDANE	(ND) ND	.05	.0099 .0099
ENDOSULFAN I	(ND) ND	.05	.03 .03
4,4+-DDE	(ND) ND	.099	.03[.03
DIELDRIN	(ND) ND	.2	.099 .099
ENDRIN	(ND) [ND	.099	.02 .02
4,41-DDD	GN) (GN)	.099	.03 .03
ENDOSULFAN II	(ND) ND	.099	.02 .02
4,4°-00T	(ND) ND	. 699	.02 .02
ENDRIN ALDEHYDE	(ND) ND	.099	.02 .02
ENDOSULFAN SULFATE	(ND) ND	. 099	.02 .02
ENDRIN KETONE	(ND) ND	.099	.02 .02
METHOXYCHLOR	(ND) ND	.5	.099 .099
TOXAPHENE	(ND) ND	3	1.2[1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(107)   65	30-130	
DECACHLOROBIPHENYL	(98) 98	30-130	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

( ) included the reported column



#### SW3520C/8081A PESTICIDES

Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-S1-132 Date Analyzed: 10/13/05 22:37
Lab Samp ID: J053-03 Dilution Factor: .95
Lab File ID: SJ13029A Matrix : WATER
Ext Btch ID: CPJ007W % Moisture : NA
Calib. Ref.: SJ13019A Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(Ug/L)
***	~ ~ * * * = =		
ALPHA-BHC	(ND) ND	.048	.0095   .0095
GAMMA-SHC (LINDANE)	(ND) ND	.048	.0095 .0095
BETA-BHC	(ND) ND	.048	.0095 .0095
HEPTACHLOR	.95 (ND)	. 048	.0095 .0095
DELTA-BHC	(ND) ND	.048	.0095 .0095
ALDRIN	(ND) .011J	.048	.0095 .0095
HEPTACHLOR EPOXIDE	(ND) ND	.048	.0095 .0095
GAMMA-CHLORDANE	(ND) ND	.048	.0095 .0095
ALPHA-CHLORDANE	(NO) (ND	.048	.0095 .0095
ENDOSULFAN I	(ND) NO	.048	.028 .028
4,4'-DDE	(ND) ND		.028 .028
DIELDRIN	(ND) ND	.19	
ENDRIN	(ND) NO	.095	.019 .019
4,41-DDD	(ND) ND	.095	
ENDOSULFAN II	(ND) NO	.095	.019 .019
4,41-DOT	(ND) ND	.095	
ENDRIN ALDEHYDE	(ND) ND	.095	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.095	
ENDRIN KETONE	(ND) ND	.095	.019 .019
METHOXYCHLOR	(ND) NO	.48	.095 .095
TOXAPHENE	(ND) ND	8.5	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(73) [68	30-130	
DECACHLOROBIPHENYL	(98) 97	30-130	
		120	

RL: Reporting Limit

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#### SW3520C/8081A PESTICIDES

Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MPA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-ST-135 Date Analyzed: 10/13/05 23:02
Lab Samp ID: J053-04 Dilution Factor: .95
Lab File ID: SJ13030A Matrix : WATER
Ext Btch ID: CPJ007W % Moisture : NA
Calib. Ref:: SJ13019A Instrument ID : GCT008

RESULTS	RL MDL
(ug/L)	(ug/L) (ug/L)
w = = = =	
(ND) ND	.048 .0095 .0095
(ND) ND	.048 .0095 .0095
(ND) .012J	.048 .0095 .0095
.13 (ND)	.048 .0095
(ND) ND	.048 .0095 .0095
(ND) .017J	.048 .0095 .0095
(ND) ND	.048 .0095 .0095
(ND) ND	.048 .0095 .0095
(ND) ND	.048 .0095 .0095
(ND) ND	.048 .028 .028
(NO) NO	.095 .028[.028
(ND) ND	.19 .095 .095
(ND) ND	.095 .019[.019
(ND) ND	.095 .028 .028
(ND) ND	.095 .019 .019
(ND) ND	.095 .019 .019
(ND) ND	.095 .019[.019
(ND) ND	.095 .019 .019
(ND) ND	.095 .019 .019
(ND) ND	.48 .095 .095
(ND) ND	2.8 1.2 1.2
	OC LIMIT
	~ ~ ~ ~ ~ ~
	30-130
(98)   98	30-130
	(Ug/L)  (ND) ND (ND) ND (ND) .012J .13 (ND) (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND

RL: Reporting limit

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#### SW3520C/8081A PESTICIDES

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Client : TETRA TECH EC,	INC.	Date Collected:	
Project : MFA, SITE 1, CT	0 86 0	Date Received:	
Batch No. : 05J053		Date Extracted:	
Sample ID: 86-S1-134		Date Analyzed:	
Lab Samp ID: J053-05		Dilution Factor:	
Lab File ID: SJ13031A		Matrix :	WATER
Ext Btch ID: CPJ007W		% Moisture :	
Calib. Ref.: SJ13019A		Instrument ID :	GCT008
		**************************************	=======================================
PARAMETERS	RESULTS		MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC		~ ~	~~
GAMMA-BHG (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) ND		.0094 .0094
HEPTACHLOR	L110. (CON)		
DELTA-BHC	.068 (ND)	.047	.0094 .0094
ALDRIN	(ND) ND	.047	,-
	LSD. (GM)	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	
GAMMA-CHLORDANE NLPHA-CHLORDANE	.011J (ND)	.047	.0094 .0094
	(ND) ND	.047	
(NDOSULFAN )	(ND) ND		.028 .028
,4'-00E	ON (ON)	.094	
VIELDRIN	(ND) ND	.19	.094 .094
NORIN	(ND) ND	. 094	
,41-BDD	(ND) ND	.094	.028 .028
NDOSULFAN II	(ND) ND	. 094	.019 .019
,4*-DDT	(BD) tun	00/	040 045

ON (ON)

.094

.094

.019 .019

.019 .019

.019 .019 .019 .094 .094 1.2 1.2

	(10%) (10%)	.034
ENDOSULFAN SULFATE	(ND) ND	. 094
ENDRIN KETONE	(ND) ND	.094
METHOXYCHLOR	(ND) ND	.47
TOXAPHENE	CM) (DM)	8.5
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
* ~ * * * * * * * * * * *		
TETRACHLORO-M-XYLENE	(70)   69	30-130
DECACHLOROBIPHENYL	(98)   98	30-130

RL : Reporting limit

ENDRIM ALDERYDE

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^( ) included the reported column



Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-S1-135 Date Analyzed: 10/13/05 23:52
Lab Samp-ID: J053-06 Dilution Factor: Lab File ID: SJ13032A Matrix : WATER
Ext 8tch ID: CPJ007N % Moisture : NA
Calib. Ref.: SJ13019A Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND) ND		.01 .0
GAMMA-BHC (LINDANE)	(ND) ND	.05	.01[.01
BETA-BHC	(ND) ND	.05	,
HEPTACHLOR	.54 (ND)	.05	.01 .01
DELTA-SHC	(ND) ND	۰05	.01 .01
ALDRIN	.026J (ND)	.05	.01 .01
HEPTACHLOR EPOXIDE	_044J (ND)	. 05	.01 .01
GAMMA-CHLORDANE	(ND) ND	.05	.01 .01
ALPHA-CHLORDANE	(ND) ND	. 05	.01[.01
ENDOSULFAN I	(ND) ND	.05	.03   .03
4,4:-DDE	(ND) ND	-1	.03 .03
DIELDRIN	(ND) ND	.2	.1 .1
ENDRIN	(ND) NO	. 1	.02[.02
4,4'-DDD	(ND) ND	_1	.03 .03
ENDOSULFAN II	(ND) ND	_1	.02 .02
4,4:-DDY	(ND) ND	.1	.02 .02
ENDRIN ALDEHYDE	(ND) ND	.1	.02 .02
ENDOSULFAN SULFATE	(ND) ND	_ 1	.02 .02
ENDRIN KETONE	(ND) ND	_ 7	.02   .02
METHOXYCHLOR	(ND) ND	.5	.1 .1
TOXAPHENE .	(ND) ND	3	1,2[1.2
SURROGATE PARAMETERS	% RECOVERY	OC LIMIT	
TETRACHLORO-M-XYLENE	(82)   73	30-130	
DECACHLOROBIPHENYL	(96)   95	30-130	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column



Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Satch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-S1-136 Date Analyzed: 10/14/05 02:50
Lab Samp ID: J053-07 Dilution Factor: .97
Lab File ID: SJ13039A Matrix : WATER
Ext Btch ID: CPJ007W % Moisture : NA
Calib. Ref.: SJ13035A Instrument ID: GCT008

	RESULTS	Ri. P	DL
PARAMETERS	(ug/L)	(ug/L) (u	ig/L)
p = w = = w = v = =			
ALPHA-BHC	(ND) ND	.049 .009	
GAMMA-BHC (LINDANE)	(ND) ND		7 .0097
BETA-BHC	L6EO. (CDA)		7 .0097
HEPTACHLOR	1.6 (ND)		7 .0097
DELTA-BHC	(ND) ND	-	7 ,0097
ALDRIN	.014J (ND)		7 .0097
HEPTACHLOR EPOXIDE	(ND) ND		7 .0097
GAMMA-CHLORDANE	(ND) ND		7 .0097
ALPHA-CHLORDANE	(NO) ND		7 .0097
ENDOSULFAN I	(ND) ND	.049 .02	9 . 029
4,41-DDE	(ND) NO	.097 .02	9 .029
DIELDRIN	(ND) ND	.19 .09	7 .097
ENDR1N	OM (OM)	.097 .01	9 .019
4.4:-000	ON (ON)	.097 .02	9],029
ENDOSULFAN 11	(ND) ND	.097 .01	9[.019
4,4 * -DDT	(ND) ND	.097 .01	9 .019
ENDRIN ALDEHYDE	(ND) ND	.097 .01	9[.019
ENDOSULFAN SULFATE	(ND) ND	.097 ,01	9 .019
ENDRIN KETONE	(ND) ND	.097 .01	9[.019
METHOXYCHLOR	(ND) ND	.49 .09	7 .097
TOXAPHENE	(ND) ND	2.9 1.	2[1.2
SURROGATE PARAMETERS	% RECOVERY	GC LIMIT	
TTTAINE OOD & VVI DEC	(76) [71	30-130	
TETRACHLORO-M-XYLENE		30-130	
DECACHLOROBIPHENYL	(99) 98	30-130	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column



Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05J053 Date Extracted: 10/11/05 14:00
Sample ID: 86-S1-126 Date Analyzed: 10/14/05 03:15
Lab Samp ID: J053-09 Dilution Factor: .94
Lab File ID: SJ13040A Matrix : WATER
Ext Btch ID: CPJ007W % Moisture : NA
Calib. Ref.: SJ13035A Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	
		v v	
ALPHA-BHC	(ND) ND	.047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) (.015J	.047	.0094 .0094
HEPTACHLOR	.035J (ND)	.047	.0094 .0094
DELTA-SHC	(ND) ND	.047	.0094 .0094
ALDRIN	.014J (ND)	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND		.028 .028
4,41-DDE	(ND) ND		.028 .028
DIELDRIN	(ND) ND	.19	.094 .094
ENDRIN	(ND) ND	.094	
4,41-000	GM (DM)	.094	
ENDOSULFAN II	(ND) ND	. 094	
4,41-007	(ND) ND	.094	•
ENDRIN ALDERYDE	(ND) ND	.094	•
ENDOSULFAN SULFATE	(ND) ND	.094	,
ENDRIN KETONE	(ND) ND	.094	,
METHOXYCHLOR	(ND) ND	.47	
TOXAPHENE .	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
	_ ~ _ ~ ~ ~ ~ ~ ~ ~ ~	~~	
TETRACHLORO-M-XYLENE	(85)   81	30-130	
DECACHLOROBIPHENYL	(99) [98	30-130	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column



Client : TETRA TECH EC, INC. Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86 Date Received: 10/07/05
Batch No. : 05/053
Date Extracted: 10/11/05 Date Extracted: 10/11/05 14:00 Date Analyzed: 10/14/05 03:40 Sample 1D: 86-S1-128 Dilution Factor: .94 Lab Samp ID: J053-10. Matrix : WATER % Moisture : NA Lab File ID: SJ13041A Ext 8tch ID: CPJ007W Instrument ID : GCT008 Calib. Ref.: SJ13035A EDENCINE AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLUMN AND THE COLU

PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
ALPHA-BHC GAMMA-BHC (LINDANE) BETA-BHC HEPTACHLOR DELTA-BHC ALDRIN HEPTACHLOR EPOXIDE GAMMA-CHLORDANE ALPHA-CHLORDANE ENDOSULFAN I 4,4'-DDE DIELDRIN ENDRIN 4,4'-DDD ENDOSULFAN II 4,4'-DDT ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN ALDEHYDE ENDOSULFAN SULFATE ENDRIN KETONE METHOXYCHLOR	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .0094 .0094 .047 .028 .028 .094 .028 .028 .19 .094 .094 .094 .019 .019 .094 .019 .019
TOXAPHENE SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	(68)   68 (96)   96	30-130 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column



************************************	
Client : TETRA TECH EC, INC.	Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86	Date Received: 10/07/05
Batch No. : 05J053	Date Extracted: 10/11/05 14:00
Sample 1D: 86-S1-129	Date Analyzed: 10/14/05 05:47
Lab Samp ID: J053-11	Dilution Factor: .97
Lab File ID: SJ13046A	Matrix : WATER
Ext Btch ID: CPJ007W	% Moisture : NA
Calib. Ref.: SJ13035A	Instrument [D : GCT008

PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
		,049 ,0097 .0097
ALPRA-BHC	(ND) NO	.049 .0097 .0097
GAMMA-BHC (LINDANE)	(ND) ND	.049 .0097 .0097
BETA-BHC	(ND) _017J	• • • • • • • • • • • • • • • • • • • •
HEPTACHLOR	(.02J) .011J	
DELTA-8HC	(ND) ND	.049 .0097 .0097
ALDRIN	(ND) ND	.049 .0097 .0097
HEPTACHLOR EPOXIDE	(ND) ND	.049 .0097 .0097
GAMMA - CHLORDANE	(ND) ND	.049 .0097 .0097
ALPHA-CHLORDANE	(ND) ND	.049 .0097 .0097
ENDOSULFAN !	(ND) ND	.049 .029 .029
4,41-DDE	(ND) ND	.097 .029[.029
DIELDRIN	(ND) ND	.19 .097[.097
ENDRIN	(ND) ND	.097 .019 .019
4.41-000	(ND) ND	.097 .029 .029
ENDOSULFAN 11	(ND) ND	.097 .019 .019
4.4*-DDT	(ND) ND	.097 .019 .019
FNDRIN ALDEHYDE	(ND) ND	.097 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.097 .019 .019
ENDRIN KETONE	(ND) ND	.097 .019 .019
METHOXYCHLOR	(ND) ND	.49 .097 .097
man 1 a 2 1 2 5 1 5 5 5 5	(ND) ND	2.9 1.2 1.2
FUXAPRENE	()	•
SURROGATE PARAMETERS	% RECOVERY	GC LIMIT
		20.470
TETRACHLORO-M-XYLENE	70 (72)	30-130
DECACHLOROBIPHENYL	(96) 95	30-130

RL: Reporting limit
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( ) included the reported column



222222222222222222222222222222222222222	ween-mwwann	Date Collected:	10/06/05
Client : TETRA TECH EG, INC.		Date Received:	
Project : MFA, SITE 1, CTO 86		Date Extracted:	10/11/05 14:00
Batch No. : 05J053		Date Analyzed:	10/14/05 06:12
Sample ID: 86-S1-130		Dilution Factor:	
Lab Samp 10: J053-12		Matrix :	
Lab File ID: SJ13047A		% Moisture :	
Ext Bich ID: CPJ007W		instrument ID :	
Catib. Ref.: SJ13035A		11025 COUCHE 10 10 1	
######################################		,	
	RESULTS	200	MOL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND) ND	,049	
GAMMA-BHC (LINDANE)	(ND) ND	.049	
SETA-BHC	.13 (.25)	.049	.0097 .0097
HEPTACHLOR	2.8 (ND)	.049	
OFLTA-BHC	.012J (ND)	.049	
ALDRIN	.073 (ND)	,049	.0097 .0097
HEPTACHLOR EPOXIDE	(ND) ND	.049	.0097 .0097
GAMMA - CHLORDANE	(ND) ND	.049	.0097 .0097
ALPHA-CHLORDANE	(ND) ND	.049	.0097 .0097
ENDOSULFAN I	(ND) -055	.049	.029 .029
4.41-DDE	(DA) L660.	.097	.029 .029
DIELDRIN	(ND) ND	.19	.097 .097
ENDRIN	.032J (ND)	.097	.019 .019
4,41-DDD	.036J (ND)	.097	.029 029
ENDOSULFAN II	.023J (ND)	.097	.019 .019
4.4'-DDT	.029J (ND)	.097	.019 .019
ENDRIN ALDERYDE	(ND) ND	.097	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.097	.019[,019
ENDRIN KETONE	.031J (.032		.019 .019
METHOXYCHLOR	(ND) ND	.49	
TOXAPHENE	(ND) ND	2.9	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMI	
		30-13	
TETRACHLORO-M-XYLENE	(76) 67	30-13	
DECACHLOROBIPHENYL	(86) 74	30-13	20

RL : Reporting limit Left of | is related to first column ; Right of | related to second column ( ) included the reported column



### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J053

### SW3520C/8082 PCBs

Ten (10) water samples were received on 10/07/05 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846,  $3^{\rm rd}$  ed.

### 1. Holding Time

Analytical holding time was met.

# 2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

### 3. Method Blank

Method blank was free of contamination at the reporting limit.

### 4. Surrogate Recovery

Recoveries were within QC limit.

# 5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

# 6. Matrix Spike/Matrix Spike Duplicate

Sample J053-10 was spiked. All recoveries were within QC limit.

### 7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



#### \$¥3520C/8082 PCBs

		*************	
Client : TETRA TECH EC, INC.		Date Collected:	
Project : MFA, SITE 1, CTO 86		Date Received:	10/07/92
Batch No. : 05J053		Date Extracted:	10/11/05 14:00
Sample 10: 86-51-131		Date Analyzed:	
Lab Samp 10: J053-02		Dilution Factor:	.99
Lab File ID: SJ13028A		Matrix :	WATER
Ext Bich ID: CPJ007W		% Moisture :	NA
		Instrument 10 :	GCT008
Calib. Ref.: SJ13022A		222-222-2222-2	
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ranaciene			~~~~~
PCB-1016	(ND) ND	.99	.25 .25
	(ND) ND	.99	. 25   . 25
PC8-1221	(ND) ND	,99	.25 .25
PC8-1232	(ND) ND	99	
PC8-1242		.99	!
PCB-1248	(ND) ND	.99	;
PCB-1254	(ND) ND	.99	
PC8-1260	(ND) ND	* ***	45.3   × 6.2
SURROGATE PARAMETERS	% RECOVERY	QC LIM	T
************		30-13	ξ0
TETRACHLORO-M-XYLENE	(73) 63	30-11	
DECACHLOROBIPHENYL	(94) 92	50°1.	30

DECACHLOROBIPHENYL

Left of | is related to first column; Right of | related to second column ( ) included the reported column * Out side of QC Limit



Client: TETRA TECH EC, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05J053 Sample: ID: 86-S1-132 Lab Samp ID: J053-03 Lab File ID: SJ13029A Ext Btch ID: CPJ007W	Date Collected: 10/06/05 Date Received: 10/07/05 Date Extracted: 10/11/05 14:00 Date Analyzed: 10/13/05 22:37 Dilution Factor: .95 Matrix : WATER % Moisture : NA Instrument ID : GCT008
	ni Mhì

PARAMETERS PCB-1016 PCB-1221	RESULTS (Ug/L) (ND) ND (ND) ND (ND) ND	RL (ug/L) .95 .95	MDL (ug/L) .24 .24 .24 .24
PC6-1232 PC8-1242 PC8-1248 PC8-1254 PC8-1250	(ND) ND (ND) ND (ND) ND (ND) ND	.95 .95 .95 .95	.24 .24 .24 .24 .24 .24 .24 .24
SURROGATE PARAMETERS	% RECOVERY	OC LIMIT	
TETRACHLORG-M-XYLENE DECACHLORGBIPHENYL	(64)   62 (93)   92	30-130 30-130	

Rt: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of OC Limit



#### sw3520C/8082 PCBs

Client : TETRA TECH EC, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Sample : ID: 86-S1-133 Lab Samp ID: J053-04 Lab File ID: SJ13030A Ext Btch ID: CPJ007W Calib. Ref.: SJ13022A		Date Collected: Date Received: Date Extracted: Date Analyzed: Dilution Factor: Matrix: % Moisture : Instrument ID :	10/07/05 10/11/05 14:00 10/13/05 23:02 .95 WATER NA
PARAMETERS	RESULTS (ug/L)	Rt (ug/L)	
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	DN ( (DN )  DN ( (DN )  DN ( (DN )  DN ( (DN )  DN ( (DN )  DN ( (DN )  DN ( (DN )	.95 .95 .95 .95 .95 .95	.24 .24 .24 .24 .24 .24 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMI	Ĩ

DECACHLOROBIPHENYL

TETRACHLORG-M-XYLENE

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column

(73) | 76 (93) | 93

30-130

30-130

^{*} Out side of QC Limit



Client: TETRA TECH EC, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 05J053 Sample: JD: 86-S1-134 Lab Samp ID: J053-05 Lab File ID: SJ13031A Ext Stch ID: CPJ007W Catib. Ref.: SJ13022A		Date Collected: Date Received: Date Extracted: Date Analyzed: Dilution Factor: Matrix : % Moisture : Instrument ID :	10/07/05 10/11/05 14:00 10/13/05 23:27 .94 WATER NA
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (NO) ND	.94 .94 .94 .94 .94 .94	.24 .24 .24 .24 .24 .24 .24 .24 .24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (61)  63 (94)  93	ec Limi 30-13 30-13	- 0

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of OC Limit



Ctient : TETRA TECH EC, INC.		Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86		Date Received: 10/07/05
Batch No. : 05J053		Date Extracted: 10/11/05 14:00
Sample _ ID: 86-81-135	-	Date Analyzed: 10/13/05 23:52
Lab Samp ID: J053-06		Dilution Factor: 1
Lab File ID: SJ13032A		Matrix : WATER
Ext 8tch [D: CPJ007W		% Moisture ; NA
Calib. Ref.: SJ13022A		Instrument ID : GCTOO8
=======================================	-======================================	***************************************
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
W W W W W W W W W	~ ~ ~ ~ ~ ~	6 6 4 6 4 6 4 6 6 6 6 6 6 6 6 6 6 6 6 6
PCB-1016	(ND) ND	1 .25 .25
PCB-1221	(ND) ND	1 .25 .25
PCB-1232	(ND) ND	1 .25   .25
PCB-1242	(ND) ND	1 .25 .25
PCB-1248	(ND) ND	1 .25 .25
PCB-1254	(ND) ND	1 .25 .25
PCB-1260	(ND) ND	1 .25 .25
		·
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
		"V" "00" 100 MA MA MA WE MA
TETRACHLORO-M-XYLENE	(73) 68	30-130
DECACHLOROBIPHENYL	(91) 90	30-130

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



Client : TETRA TECH EC, INC.	Date Collected: 10/06/05
Project : MFA, SITE 1, CTO 86	Date Received: 10/07/05
Batch No. : 05J053	Date Extracted: 10/11/05 14:00
Sample, ID: 86-S1-136	Date Analyzed: 10/14/05 02:50
Lab Samp 10: J053-07	Dilution Factor: ,97
Lab File ID: SJ13039A	Matrix : WATER
Ext 8tch ID: CPJ007W	% Moisture : NA
Calib. Ref.: SJ13038A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	∺DL (Ug/L)
***************************************			
PCB-1016	(ND) ND	.97	. 24   . 24
PCB-1221	(ND) (ND)	.97	.24 .24
PC8-1232	(ND) ND	,97	. 24 . 24
PCB-1242	(ND) ND	.97	.24 .24
PCB-1248	(ND) ND	.97	.24 .24
PCB- 1254	(ND) ND	.97	.24 .24
PCB-1260	(ND) ND	.97	.24   .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
- ^	~ ~ ~ ~ ~ ~ ~		
TETRACHLORG-M-XYLENE	(68) [67	30~130	
DECACHLORGB   PHENYL	(94) 92	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



Client : TETRA TECH EC, INC.		Pota Oilli	******
Project : MFA, SITE 1, CTO 86		Date Collected:	10/06/05
Batch No. : 05,053		Date Received:	10/07/05
Sample ID: 86-S1-126		Date Extracted:	10/11/05 14:0
Lab Samp 10: J053-09		Date Analyzed:	
Lab File ID: SJ13040A		Dilution Factor:	
Ext Btch ID: CPJ007W		Matrix :	
Calib. Ref.: SJ13038A		% Moisture :	
		Instrument ID :	GCT008
over an among star factor	and the first have been seen that the control of the		**************
***	RESULTS	RL	MD1
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
*********	,		
PC8-1016	(MD) ND	,94	.24].24
PCB-1223	(ND) ND	.94	
PC8-1232	(ND) NO	. 94	
PCB-1242	(ND) ND	.94	.24   .24
PCB-1248	(ND) ND	,94	.24].24
PCB-1254	(ND) ND	.94	.24 .24
PCB~ 1260	(MD) (MA)	.94	.24 .24
URROGATE PARAMETERS	% RECOVERY		-
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	/ REDUVER!	OC LIMIT	
ETRACHLORO-M-XYLENF	ere lar	******	
ECACHLOROS I PHENYL	(75) 75	30-130	
HAME ORGER ROUTE	(93)   93	30-130	

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



 
 Client
 : TETRA TECH EC, INC.
 Date
 Collected: 10/06/05

 Project
 : MFA, SITE 1, CTO 86
 Date
 Received: 10/07/05

 Batch No.
 : 05J053
 Date
 Extracted: 10/11/05
 Date Extracted: 10/11/05 14:00 Date Analyzed: 10/14/05 03:40 Sample ID: 86-S1-128 Lab Samp ID: J053-10 Dilution Factor: .94 Matrix : WATER
% Moisture : NA
Instrument ID : GCT008 Lab File ID: SJ13041A Ext 8tch ID: CPJ007W Calib. Ref.: SJ13038A 

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(uq/L)
			~ ~
PC8-1016	(ND)(ND	.94	.24 .24
PCB: 1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) NO	.94	.24 .24
PC8-1242	(ND) ND	.94	.24 .24
PC8-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	OC LIMIT	
	~ ~ ~	* *	
TETRACHLORO-M-XYLENE	(59)   61	30-130	
DECACHLOROBIPHENYL	(91) 91	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

^( ) included the reported column

^{*} Out side of QC Limit



			~*********
Client : TETRA TECH EG, INC.		Date Collected:	10/06/05
Project : MFA, SITE 1, CTO 86	5	Date Received:	10/07/05
Batch No. : 05J053		Date Extracted:	10/11/05 14:00
Sample ID: 86-S1-129		Date Analyzed:	10/14/05 05:47
Lab Samp ID: J053-11		Dilution Factor:	.97
Lab File ID: SJ13046A		Matrix :	WATER
Ext Btch (D: CPJ007W		% Moisture :	NA
Calib. Ref.: SJ13038A		Instrument 1D :	GCT008
222252320000000000000000000000000000000			***********
	RESULTS	RŁ	LCM
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
			D11 D1
PC8-1016	(ND) ND	.97	
PCB-1221	(ND) ND	.97	.24 .24
PCB-1232	(ND) ND	.97	.24 .24
PCB-1242	(ND) ND	.97	
PCB-1248 .	(ND) ND	.97	
PCB-1254	(ND) ND	.97	
PCB-1260	(ND) ND	.97	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMI	ĭ
			**
TETRACHLORO-M-XYLENE	(63) 67	30-13	
OECACHLOROBIPHENYL	(91) 90	30-13	0

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
( ) included the reported column
* Out side of QC Limit



Client : TETRA TECH EG, INC. Date Collected: 10/06/05 Project : MFA, SITE 1, CTO 86 Batch No. : 05J053 Date Received: 10/07/05 Date Extracted: 10/11/05 14:00 Sample ... ID: 86-51-130 Date Analyzed: 10/14/05 06:12 Lab Samp ID: J053-12 Dilution Factor: .97 : WATER Lab File ID: SJ13047A Matrix Ext Btch ID: CPJ007W % Hoisture : NA Instrument 10 : GCT008 Catib. Ref.: SJ13038A RL RESULTS (ug/L) (ug/L) PARAMETERS (ug/L) .24 .24 PCB-1016 (ND) ND .97 PCB-1221 (ND) ND .97 .24 .24 .97 .24 .24 (ND) ND PCB-1232 PCB-1242 (ND) ND .97 .24 .24 PCB-1248 (ND) ND .97 .24 .24 (ND) ND .97 .24 .24 PCB-1254 .24 .24 (ND) ND .97 PCB-1260 % RECOVERY QC LIMIT SURROGATE PARAMETERS ____

DECACHLOROBIPHENYL
RL: Reporting Limit

TETRACHLORO-M-XYLENE

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(67) 7.6

(82) 91

30-130

30-130

^( ) included the reported column

^{*} Out side of QC Limit



### CASE NARRATIVE

CLIENT:

TETRA TECH EC, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

05J053

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Ten (10) water samples were received on 10/07/05 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

### 1. Holding Time

Analysis met holding time criteria.

### 2. Method Blank

Method blank was free of contamination at the reporting limit.

# 3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

# 4. Serial Dilution / Post-Analytical Spike

Sample J053-10 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

### 5. Matrix Spike/Matrix Spike Duplicate

Sample J053-10 was spiked. MS recovery was within QC limit but was out of the limit in MSD.

### 6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Samples were initially analyzed at DF 20 due to matrix interference of high salt level.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

转达接受特征 网络经验证 阿拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉拉	the top case Alf AV AR AV the typ upon men man the table and the table and the table and the table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and table and tab	A company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the company of the comp	11	7 m of the or m of the		E = = = = = = = = = = = = = = = = = = =				Matrix	••	WATER
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26.436	70-53-07	2	20	W. W.	*	N	10/13/0515:40	10/13/0511:00 M47J012U51	サポロアコロアノサ深	MCIOPS.	70/00/00	50/20/01
26-51-126	90-5500	GW.	20	×	-3"	2	10/13/0515:42	10/13/0511:00 M47J012052	M473012044	HGJUTSW	10/00/03 20/06/08	307.07.07
86-83-120	1000	G _N	20	<b>∀</b> ₩	4	2	10/13/0515:44	10/13/0511:00 M47J012053	M47JU12U44	MGJUSTAN SO SOSO	10/00/01	10/0/02
86-51-130	3053-12	9	20	Z	¢	c)	10/13/0515:46	10/13/0511:00 M4/JU12054	747.0012044	#6 059U	75/55/51	

# COLUMBIA ANALYTICAL SERVICES, INC.

Client:

Emax Laboratories, Incorporated

Service Request No.:

K0504756 10/12/2005

Project: Sample Matrix: Moffett Water

Date Received:

### CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

### Sample Receipt

Twelve water samples were received for analysis at Columbia Analytical Services on 10/12/2005. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

### **Dissolved Metals**

Matrix Spike Recovery Exceptions:

The matrix spike recoveries of Beryllium (59%), Cobalt (59%), Copper (74%), Lead (70%), and Thallium (72%) for Batch QC sample were outside the project specified control limits of 75-125%. All the recoveries were within the CAS statistically derived limits for the reductive precipitation procedure. Based on the CAS statistical control limits, the recoveries observed are in the range expected for this procedure. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. No further corrective action was appropriate.

Approved by
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Matrix:

# DISSOLVED METALS

# INORGANIC ANALYSIS DATA SHEET

Emax Laboratories, Incorporated Client:

WATER

Service Request: K0504756

Date Collected: 10/04/05

Project No.: Date Received: 10/12/05 Project Name: Moffett

Units: µG/L

Basis:

Lab Code: K0504756-001 DISS Sample Name: 86-S1-124

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Õ
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40		
	200.8	2.000	0.200	2	10/22/05	11/2/05	0.376	В	
Antimony	200.8	0.56	0.01	1	11/19/05	11/22/05	1.61		
Arsenic	200.8	2.00	0.24	2	10/22/05	11/2/05	107	<u> </u>	
Barium		0.0222	0.0007	1	11/19/05	11/22/05	0.0073	В	N
Beryllium	200.8	0.0222	0.002	1 1	11/19/05	11/22/05	0.407		
Cadmium	200.8		0.002	1	11/19/05	11/22/05	0.44	Π	
Chromium	200.8	0.22	<u> </u>	1 1	11/19/05	11/22/05	7.690		N
Cobalt	200.8	0.022	0.002	Ļ <u> </u>	11/19/05	11/22/05	2.640	Ī	N
Copper	200.8	0.111	0.006	1 1	1	11/22/05	0.131	<del></del>	N
Lead	200.8	0.022	0.009	1	11/19/05	11/22/05	16.3	<del></del>	<del> </del>
Nickel	200.8	0.22	0.02	1	11/19/05	<u> </u>	0.3		\ <u> </u>
Selenium	7742	1.0	0.3	2	10/26/05	11/22/05	<u> </u>	<del></del>	1
Silver	200.8	0.022	0.002	1	11/19/05	11/22/05	0.093	<u> </u>	1,,
Thallium	200.8	0.0222	0.0006	1	11/19/05	11/22/05	0.0403	<del>-</del>	N
Vanadium	6010B	20.0	7.0	1	10/26/05	11/2/05	13.7	<del></del>	<u> </u>
Zinc	200.8	0.56	0.02	1	11/19/05	11/22/05	20.1		

% Solids: 0.0

# INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Date Collected: 10/04/05

Project No.: NA

Date Received: 10/12/05

Project Name: Moffett

Units: µG/L

Matrix:

WATER

Basis: NA

Sample Name: 86-S1-125

Lab Code: K0504756-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40		<u> </u>
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	В	<u> </u>
Arsenic	200.8	1.11	0.02	2	11/19/05	11/22/05	4.47		<u> </u>
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	176		<u> </u>
Beryllium	200.8	0.0222	0.0007	1	11/19/05	11/22/05	0.0108	В	N
Cadmium	200.8	0.044	0.004	2	11/19/05	11/22/05	0.004	U	
<u> </u>	200.8	0.44	0.07	2	11/19/05	11/22/05	0.84		
Chromium	200.8	0.044	0.004	2	11/19/05	11/22/05	3.320		N
Cobalt	200.8	0.222	0.011	2	11/19/05	11/22/05	0.100	В	N
Copper	200.8	0.044	0.018	1 2	11/19/05	11/22/05	0.022	В	N
Lead	200.8	0.44	0.04	1 2	11/19/05	11/22/05	6.46		
Nickel		1.0	0.3	2	10/26/05	11/22/05	0.3	U	T
Selenium	7742	0.044	0.004	$\frac{1}{2}$	11/19/05	11/22/05	0.004	U	T
Silver	200.8	<u> </u>	0.001	2	11/19/05	11/22/05	0.0011	Ū	N
Thallium	200.8	0.0444	<u> </u>	+	10/26/05	11/2/05	12.1	В	
Vanadium	6010B	20.0	7.0		11/19/05		0.64	<del></del>	i -
Zinc	200.8	1.11	0.04	2	11/19/05	11/22/00	1	1	

% Solids: 0.0

-1-

# INORGANIC ANALYSIS DATA SHEET

Client: Emax Laboratories, Incorporated Service Request: K0504756

Project No.: NA Date Collected: 10/06/05

Project Name: Moffett Date Received: 10/12/05

Matrix: WATER Units: μG/L

Basis: NA

Sample Name: 86-S1-131 Lab Code: K0504756-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	U	
Antimony	200.8	1.000	0.100	1	10/22/05	11/2/05	0.244	В	
Arsenic	200.8	0.56	0.01	1	11/19/05	11/22/05	0.95		
Barium	200.8	1.00	0.12	1	10/22/05	11/2/05	576	<u> </u>	
Beryllium	200.8	0.0222	0.0007	1	11/19/05	11/22/05	0.0042	В	N
Cadmium	200.8	0.022	0.002	1	11/19/05	11/22/05	0.002	U	<u> </u>
Chromium	200.8	0.22	0.03	1	11/19/05	11/22/05	0.56		<u> </u>
Cobalt	200.8	0.022	0.002	1	11/19/05	11/22/05	1.730		N
	200.8	0.111	0.006	1	11/19/05	11/22/05	0.031	В	N
Copper	200.8	0.022	0.009	1	11/19/05	11/22/05	0.009	U	N
Lead	200.8	0.22	0.02	1 1	11/19/05	11/22/05	4.69		
Nickel	7742	1.0	0.3	2	10/26/05	11/22/05	0.3	U	
Selenium	200.8	0.022	0.002	1	11/19/05	11/22/05	0.002	U	
Silver	200.8	0.0222	0.0006		11/19/05	11/22/05	0.0014	B	N
Thallium		20.0	7.0	$+\frac{1}{1}$	10/26/05	11/2/05	9.8	В	
Vanadium	6010B	<u> </u>	0.02	1 1	11/19/05	11/22/05	1.84	Т	1
Zinc	200.8	0.56	0.02		1 / /		1	<del>.                                    </del>	

% Solids: 0.0

Comments: Dissolved Metals

# INORGANIC ANALYSIS DATA SHEET

Emax Laboratories, Incorporated Client:

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Project Name: Moffett

Date Received: 10/12/05

Units: µG/L

WATER Matrix:

Basis: NA

Sample Name: 86-S1-132

Lab Code: K0504756-004 DISS

Analyte	Analysis Method	MRL	WDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	U	<u> </u>
	200.8	1.000	0.100	1	10/22/05	11/2/05	0.236	<u> </u>	<u> </u>
Antimony	200.8	0.56	0.01	1	11/19/05	11/22/05	1.95		
Arsenic		1.00	0.12	1 1	10/22/05	11/2/05	556		
Barium	200.8	0.0222	0.0007	1	11/19/05	11/22/05	0.0046	В	N
Beryllium	200.8		0.002	1 1	11/19/05	11/22/05	0.002	U	
Cadmium	200.8	0.022	: 	1	11/19/05	11/22/05	0.59	Ī	T
Chromium	200.8	0.22	0.03	<del>                                     </del>	11/19/05	11/22/05	2.990		N
Cobalt	200.8	0.022	0.002	.!	11/19/05	1 11/22/05	0.060	Īв	N
Copper	200.8	0.111	0.006	1		<u></u>	0.009	<del>. j</del>	<u> </u>
Lead	200.8	0.022	0.009	1 1	11/19/05	11/22/05	1 4.80	<del></del>	<del></del>
Nickel	200.8	0.22	0.02	1 1	11/19/05	<u> </u>	0.3	<del></del>	<del> </del>
Selenium	7742	1.0	0.3	2	10/26/05	11/22/05	0.002	<del>-</del>	
Silver	200.8	0.022	0.002	1 1	11/19/05	11/22/05		<del></del>	<del></del>
Thallium	200.8	0.0222	0.0006	11	11/19/05	11/22/05	0.0011	<u> </u>	
Vanadium	6010B	20.0	7.0	1	10/26/05		10.3	<u></u>	<del>- </del>
Zinc	200.8	0.56	0.02	1	11/19/05	11/22/05	2.25	<u> </u>	

% Solids: 0.0

-1-

# INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Project Name: Moffett

Date Received: 10/12/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-133

Lab Code: K0504756-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	υ	
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	Ü	
Arsenic	200.8	1.05	0.02	2	11/19/05	11/22/05	3.86	<u> </u>	
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	150		
Beryllium	200.8	0.0421	0.0013	2	11/19/05	11/22/05	0.0072	В	N
	200.8	0.042	0.004	2	11/19/05	11/22/05	0.004	U	
Cadmium	200.8	0.42	0.06	2	11/19/05	11/22/05	0.61	<u> </u>	
Chromium	200.8	0.042	0.004	2	11/19/05	11/22/05	2.270		N
Cobalt	200.8	0.211	0.011	2	11/19/05	11/22/05	0.099	В	N
Copper	200.8	0.042	0.017	1 2	11/19/05	11/22/05	0.017	U	N
Lead		0.42	0.04	2	11/19/05	11/22/05	5.45		
Nickel	200.8	<u> </u>	0.3	1 2	10/26/05	11/22/05	0.3	Ū	
Selenium	7742	1.0	0.004	+ -	11/19/05	11/22/05	0.004	Ū	
Silver	200.8	0.042	1	1 2	11/19/05	11/22/05	0.0011	Ū	N
Thallium	200.8	0.0421	0.0011		10/26/05	11/2/05	7.3	<del>`</del>	İ
Vanadium	6010B	20.0	7.0	1	11/19/05	<u>,                                       </u>	31.3	<del></del>	<del></del>
Zinc	200.8	1.05	0.04	2	1 11/19/05	11/22/03	1 02.0		<u>'</u>

% Solids: 0.0

-1-

# INORGANIC ANALYSIS DATA SHEET

Emax Laboratories, Incorporated Client:

Service Request: K0504756

Date Collected: 10/06/05

Date Received: 10/12/05

Units: µG/L

Basis: NA

Matrix:

Project No.: NA

Project Name: Moffett

WATER

Sample Name: 86-S1-134

Lab Code: K0504756-006 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Ō
Aluminum	6010B	50	40	1.	10/26/05	11/2/05	40		
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	<u> </u>	<u> </u>
Arsenic	200.8	1.11	0.02	2	11/19/05	11/22/05	4.33		<u> </u>
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	150		
	200.8	0.0444	0.0013	2	11/19/05	11/22/05	0.0079	В	N
Beryllium	200.8	0.044	0.004	2	11/19/05	11/22/05	0.004	U	
Cadmium	200.8	0.44	0.07	2	11/19/05	11/22/05	0.50		
Chromium	200.8	0.044	0.004	2	11/19/05	11/22/05	2.280		N
Cobalt	200.8	0.222	0.011	2	11/19/05	11/22/05	0.093	B	N
Copper	200.8	0.044	0.018	1 2	11/19/05	11/22/05	0.026	В	N
Lead	200.8	0.44	0.04	2	11/19/05	11/22/05	5.46		T
Nickel	7742	1.0	0.3	1 2	10/26/05	11/22/05	0.3	ט	T
Selenium		0.044	0.004	2	11/19/05	11/22/05	0.004	ט	
Silver	200.8	0.0444	0.0011	1 2	11/19/05	11/22/05	0.0011	U	N
Thallium	200.8	<u> </u>	7.0	1 1	10/26/05		10.6	В	1
Vanadium	6010B	20.0	0.04	1 2	11/19/05		20.6	1	T
Zinc	200.8	1.11	0.04	<u> </u>	1 22/20/00		1		

% Solids: 0.0

# INORGANIC ANALYSIS DATA SHEET

Emax Laboratories, Incorporated Client:

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Date Received: 10/12/05

Project Name: Moffett

Units: µG/L

Matrix: WATER

Basis: NA

Sample Name: 86-51-135

Lab Code: K0504756-007 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	45.2	В	
Antimony	200.8	1.000	0.100	1	10/22/05	11/2/05	0.306	·	<u> </u>
Arsenic	200.8	2.22	0.04	2	11/19/05	11/22/05	7.25		<u> </u>
	200.8	1.00	0.12	1	10/22/05	11/2/05	398		
Barium	200.8	0.0444	0.0013	1 1	11/19/05	11/22/05	0.0242	В	N
Beryllium	200.8	0.089	0.009	1 2	11/19/05	11/22/05	0.009	U	
Cadmium	200.8	0.89	0.13	2	11/19/05	11/22/05	2.51		
Chromium	200.8	0.089	0.009	2	11/19/05	11/22/05	2.870		N
Cobalt		0.444	0.022	2	11/19/05	11/22/05	0.140	В	N
Copper	200.8	0.089	0.036	<del>  -</del>	11/19/05	11/22/05	0.072	В	N
Lead	200.8	<u> </u>	0.030	2	11/19/05	11/22/05	9.48	T	T
Nickel	200.8	0.89	<u> </u>	+	10/26/05	11/22/05	0.3	U	
Selenium	7742	1.0	0.3		11/19/05	11/22/05	0.009	Ìΰ	1
Silver	200.8	0.089	0.009	2		<u> </u>	0.0022		i N
Thallium	200.8	0.0889	0.0022		11/19/05		16.6		<del>  -  </del>
Vanadium	6010B	20.0	7.0	1	10/26/05		0.82		<del></del>
Zinc	200.8	2.22	0.09	2	11/19/05	11/22/05	1 0.82	🗗	<u> </u>

% Solids: 0.0

Matrix:

WATER

# DISSOLVED METALS

-1-

# INORGANIC ANALYSIS DATA SHEET

Client: Emax Laboratories, Incorporated Service Request: K0504756

Project No.: NA Date Collected: 10/06/05

Project Name: Moffett

Date Received: 10/12/05

Units: µG/L

Basis: NA

Sample Name: 86-S1-136 Lab Code: K0504756-008 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	ð
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40		
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	U	<u> </u>
Ancimony	200.8	2.22	0.04	2	11/19/05	11/22/05	7.72		
	200.8	2.00	0.24	2	10/22/05	11/2/05	458	<u> </u>	
Barium	200.8	0.0889	0.0027	2	11/19/05	11/22/05	0.0294	В	N
Beryllium	200.8	0.089	0.009	2	11/19/05	11/22/05	0.009	υ	
Cadmium		0.89	0.13	2	11/19/05	11/22/05	0.92		
Chromium	200.8	<u> </u>	0.009	1 2	11/19/05	11/22/05	7.280		И
Cobalt	200.8	0.089	0.003	2	11/19/05	11/22/05	0.125	В	N
Copper	200.8	0.444	<del></del>	1 2	11/19/05	11/22/05	0.041	В	N
Lead	200.8	0.089	0.036		11/19/05	11/22/05	12.5	İ	Ť T
Nickel	200.8	0.89	0.09	2	I	11/22/05	1 0.3	<del></del>	<u> </u>
Selenium	7742	1.0	0.3	2	10/26/05	<u> </u>	0.009	<del></del>	1
Silver	200.8	0.089	0.009	2	11/19/05	11/22/05	0.0022	<del> </del>	I NT
Thallium	200.8	0.0889	0.0022	2	11/19/05	<del></del>		<u> </u>	<del> </del>
Vanadium	6010B	20.0	7.0	1 1	10/26/05		15.1		
Zinc	200.8	2.22	0.09	2	11/19/05	11/22/05	0.74	113	1

% Solids: 0.0

Comments: Dissolved Metals

# INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Date Received: 10/12/05

Project Name: Moffett

Units: µG/L

Matrix:

WATER

Basis: NA

Sample Name: 86-S1-126

Lab Code: K0504756-009 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	<del>.</del>	
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200		<u> </u>
Arsenic	200.8	1.18	0.02	2	11/19/05	11/22/05	2.97		<u> </u>
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	99.9		
	200.8	0.0235	0.0007	1	11/19/05	11/22/05	0.0065	B	N
Beryllium	200.8	0.047	0.005	2	11/19/05	11/22/05	0.473		<u> </u>
Cadmium	200.8	0.47	0.07	2	11/19/05	11/22/05	0.35	В	
Chromium	200.8	0.047	0.005	2	11/19/05	11/22/05	9.690		N
Cobalt		0.235	0.012	2	11/19/05	11/22/05	0.494		N
Copper	200.8	0.047	0.019	1 2	11/19/05	11/22/05	0.036	В	N
Lead	200.8	<u> </u>	0.013	1 2	11/19/05	11/22/05	14.5	T	T
Nickel	200.8	0.47	<u> </u>	1 2	10/26/05	11/22/05	0.3	Ū	
Selenium	7742	1.0	0.3	$\frac{1}{2}$	11/19/05	11/22/05	0.005	ับ	
Silver	200.8	0.047	0.005	!	<u> </u>	<u>, ¹,</u>	0.0517	<del></del>	N
Thallium	200.8	0.0471	0.0012		11/19/05	<u></u>	11.6		1
Vanadium	6010B	20.0	7.0	1 1	10/26/05	<u> </u>	17.4	<del></del>	<del></del>
Zinc	200.8	1.18	0.05	1 2	11/19/05	11/22/05	1 27.3	1	3

% Solids: 0.0

Matrix:

# DISSOLVED METALS

-1-

# INORGANIC ANALYSIS DATA SHEET

Emax Laboratories, Incorporated Client:

Service Request: K0504756

Date Collected: 10/06/05

Project No.: Project Name: Moffett

Date Received: 10/12/05

Units: µG/L

Basis: NA

Sample Name: 86-S1-128

WATER

Lab Code: K0504756-010 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Ō
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	U	
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	U	<u> </u>
Arsenic	200.8	1,25	0.03	2	11/19/05	11/22/05	5.28		
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	159		<u> </u>
	200.8	0.0250	0.0008	1	11/19/05	11/22/05	0.0102	В	N
Beryllium	200.8	0.050	0.005	2	11/19/05	11/22/05	0.005	U	<u> </u>
Cadmium	200.8	0.50	0.08	2	11/19/05	11/22/05	0.44	В	
Chromium	200.8	0.050	0.005	2	11/19/05	11/22/05	8.340		N
Cobalt		0.250	0.013	2	11/19/05	11/22/05	0.075	В.	N
Copper	200.8	0.250	0.020	1 2	11/19/05	11/22/05	0.020	U	N
Lead	200.8	0.50	0.05	2	11/19/05	11/22/05	10.3	T	
Nickel	200.8	<u> </u>	0.3	1 2	10/26/05	11/22/05	0.3	U	T
Selenium	7742	1.0	0.005	2	11/19/05	11/22/05	0.005	Τυ	T
Silver	200.8	0.050	<u> </u>		11/19/05	<u></u>	0.0031	В	N
Thallium	200.8	0.0500	0.0013	<del></del>		_1	13.0	<u> </u>	
Vanadium	6010B	20.0	7.0	1 1	10/26/05		1.09		
Zinc	200.8	1.25	0.05	2	11/19/05	11/22/03	1 2.03	1	

% Solids: 0.0

### INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Project Name: Moffett

Date Received: 10/12/05

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-129

Lab Code: K0504756-011 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	40	1	10/26/05	11/2/05	40	·	
Antimony	200.8	2.000	0.200	2	10/22/05	11/2/05	0.200	<u> </u>	<u> </u>
Arsenic	200.8	1.11	0.02	2	11/19/05	11/22/05	2.53		<u> </u>
Barium	200.8	2.00	0.24	2	10/22/05	11/2/05	72.0	<u> </u>	<u> </u>
	200.8	0.0222	0.0007	1	11/19/05	11/22/05	0.0054	В	N
Beryllium	200.8	0.044	0.004	2	11/19/05	11/22/05	0.742		
Cadmium	200.8	0.44	0.07	2	11/19/05	11/22/05	0.36	В	
Chromium	200.8	0.044	0.004	2	11/19/05	11/22/05	5.250		N
Cobalt	200.8	0.222	0.011	2	11/19/05	11/22/05	0.205	В	N
Copper		0.044	0.018	2	11/19/05	11/22/05	0.018	U	N
Lead	200.8	0.44	0.04	1 2	11/19/05	11/22/05	10.1	T	T
Nickel	200.8	<u> </u>	0.3	1 2	10/26/05	11/22/05	0.3	ט	T
Selenium	7742	1.0	0.004	1 2	11/19/05	11/22/05	0.004	U	T
Silver	200.8	0.044	<u> </u>	<u> </u>	11/19/05		0.0380	İв	IN
Thallium	200.8	0.0444	0.0011	2			14.7		<del>i                                     </del>
Vanadium	6010B	20.0	7.0	1	10/26/05	<u>. †</u>	44.3		<del> </del>
Zinc	200.8	1.11	0.04	2	11/19/05	11/22/05	1 44.3	i	1

% Solids: 0.0

Comments: Dissolved Metals

# INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Project No.: NA

Date Collected: 10/06/05

Date Received: 10/12/05

Project Name: Moffett

Units: µG/L

Matrix:

WATER

Basis: NA

Sample Name: 86-S1-130

Lab Code: K0504756-012 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
<b>31</b>	6010B	50	40	1	10/26/05	11/2/05	50.3		
Aluminum	200.8	1.000	0.100	1	10/22/05	11/2/05	0.484	В	
Antimony	200.8	1.11	0.02	2	11/19/05	11/22/05	1.93		
Arsenic		1.00	0.12	1	10/22/05	11/2/05	1260		<u> </u>
Barium	200.8	0.0222	0.0007	1	11/19/05	11/22/05	0.0169	В	N
Beryllium	200.8		0.004	2	11/19/05	11/22/05	0.004	ט	
Cadmium	200.8	0.044	0.004	2	11/19/05	11/22/05	7.41		
Chromium	200.8	0.44	<u> </u>	2	11/19/05	11/22/05	0.360		N
Cobalt	200.8	0.044	0.004	2	11/19/05	11/22/05	0.135	В	N
Copper	200.8	0.222	0.011		11/19/05	11/22/05	0.019	В	N
Lead	200.8	0.044	0.018	2		11/22/05	61.6	<del>`</del>	<del>i                                     </del>
Nickel	200.8	0.44	0.04	2	11/19/05	11/22/05	0.3	<u> </u>	<del>'                                    </del>
Selenium	7742	1.0	0.3	2	10/26/05	<u> </u>	0.004	<del>-</del>	<del>1</del>
Silver	200.8	0.044	0.004	2	11/19/05		0.004	<u> </u>	  N
Thallium	200.8	0.0444	0.0011	2	11/19/05				<del>-</del>
Vanadium	6010B	20.0	7.0	1	10/26/05		14.6		1
Zinc	200.8	1.11	0.04	2	11/19/05	11/22/05	20.2	1	ı

% Solids: 0.0

Comments: Dissolved Metals

# INORGANIC ANALYSIS DATA SHEET

Client:

Emax Laboratories, Incorporated

Service Request: K0504756

Project No.: NA

Date Collected:

Project Name: Moffett

Date Received:

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: Method Blank

Lab Code: K0504756-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
	6010B	50	40	1	10/26/05	11/2/05	40		
Aluminum		1.000	0.100	1	10/22/05	11/2/05	0.100		<u> </u>
Antimony	200.8		0.01	1	11/19/05	11/22/05	0.01	U	
Arsenic	200.8	0.50		<u> </u>	10/22/05	11/2/05	1.57		
Barium	200.8	1.00	0.12	1	11/19/05	11/22/05	0.0006	U	N
Beryllium	200.8	0.0200	0.0006	<u> </u>	11/19/05	11/22/05	0.002	U	
Cadmium	200.8	0.020	0.002	1	1	11/22/05	0.03	Ū	T
Chromium	200.8	0.20	0.03	1	11/19/05	11/22/05	0.002	<del></del>	N
Cobalt	200.8	0.020	0.002	11_	11/19/05	<u> </u>	0.005		<del></del>
Copper	200.8	0.100	0.005	1	11/19/05	11/22/05	0.008		
Lead	200.8	0.020	0.008	1	11/19/05	11/22/05	1	<del>-i</del>	┼~
Nickel	200.8	0.20	0.02	1	11/19/05	11/22/05	0.02	<del></del>	<del>                                     </del>
l	7742	1.0	0.3	2	10/26/05		0.3	<del></del>	
Selenium	200.8	0.020	0.002	1 1	11/19/05	11/22/05	0.002		
Silver		0.0200	0.0005	1 1	11/19/05	11/22/05	0.0005	Įυ	N
Thallium	200.8		7.0	<u> </u>	10/26/05		7.0	ט	<u> </u>
Vanadium	6010B	20.0		1 1	11/19/05	1	0.02	ט	
Zinc	200.8	0.50	0.02	1 +	1 1 1 1 1 0 0 0	<u> </u>			

% Solids: 0.0

Comments:

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 6, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Volatiles

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J053

# Sample Identification

86-S1-139

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

86-S1-138

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-128MS

86-S1-128MSD

^{**}Indicates sample underwent EPA Level IV review

### Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

### I. Technical Holding Times

All technical holding time requirements were met.

All samples were received in good condition with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
86-S1-132** 86-S1-133 86-S1-126 86-S1-128	All TCL compounds	Air bubbles were apparent in the sample containers.	There should be no air bubbles in the sample containers.	J (all detects) UJ (all non-detects)	A

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

### II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination  $(r^2)$  were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all volatile target compounds were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	A or P
9/21/05	Acetone 2-Butanone	0.043 (≥0.05) 0.040 (≥0.05)	86-S1-136 86-S1-138 86-S1-126 86-S1-128 86-S1-129 86-S1-130 86-S1-128MS 86-S1-128MSD MBLK1W	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А

# IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	AorP
10/19/05	Chlorcethane Trichlorofluoromethane Carbon disulfide 2,2-Dichloropropane n-Butylbenzene Hexachlorobutadiene	27.1 41.9 26.3 42.6 25.6 28.0	86-S1-139 / 86-S1-131 / 86-S1-132** / 86-S1-133 / 86-S1-134** / 86-S1-135 / MBLK2W	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 25.0% for all compounds.

All of the continuing calibration RRF values were within method and validation criteria with the following exceptions:

Date	Compound	RRF (Limits)	Associated Samples	Flag	AorP
10/16/05	Acetone 2-Butanone	0.035 (≥0.05) 0.044 (≥0.05)	86-S1-136 // 86-S1-138 // 86-S1-126 // 86-S1-128 // 86-S1-129 // 86-S1-128 // 86-S1-128 // 86-S1-128 // 86-S1-128 // MBLK1 //	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

#### VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

### VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits.

#### XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

## XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

#### XVI. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No volatiles were detected in any of the samples.

#### XVII. Field Blanks

Samples 86-S1-139 and 86-S1-138 were identified as trip blanks. No volatile contaminants were found in these blanks.

# Moffett Air Field, Site 1, CTO 86 Volatiles - Data Qualification Summary - SDG 05J053

SDG	Sample	Compound	Flag	A or P	Reason
04J053	86-S1-132** 86-S1-133 86-S1-126 86-S1-128	All TCL compounds	J (all detects) UJ (all non-detects)	А	Sample condition
04J053	86-S1-136 86-S1-138 86-S1-126 86-S1-128 86-S1-129 86-S1-130	Acetone 2-Butanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А	Initial calibration (RRF)
04J053	86-S1-139 86-S1-131 86-S1-132** 86-S1-133 86-S1-134** 86-S1-135	Chloroethane Trichlorofluoromethane Carbon disulfide 2,2-Dichloropropane n-Butylbenzene Hexachlorobutadiene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04J053	86-S1-136 86-S1-138 86-S1-126 86-S1-128 86-S1-129 86-S1-130	Acetone 2-Butanone	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	Α	Continuing calibration (RRF)

Moffett Air Field, Site 1, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 6, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Semivolatiles

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J053

## Sample Identification

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-130RE

86-S1-128MS

86-S1-128MSD

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 13 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

## II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

#### III. Initial Calibration

Initial calibration was performed using required standard concentrations.

Percent relative standard deviations (%RSD) were less than or equal to 15.0% for each individual compound and less than or equal to 30.0% for calibration check compounds (CCCs).

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination  $(r^2)$  were greater than or equal to 0.990.

For the purposes of technical evaluation, all compounds were evaluated against the 30.0% (%RSD) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Average relative response factors (RRF) for all semivolatile target compounds were within method and validation criteria.

#### IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

Percent differences (%D) between the initial calibration RRF and the continuing calibration RRF were within the method criteria of less than or equal to 20.0% for calibration check compounds (CCCs).

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	AorP
10/14/05	Bis(2-chloroisopropyl)ether 2,4-Dinitrophenol 4-Nitrophenol Benzo(k)fluoranthene	34.9 33.8 25.5 33.6	86-S1-131 / 86-S1-132** / 86-S1-133 / 86-S1-135 / 86-S1-136 / 86-S1-126 / 86-S1-128 / 86-S1-129 / 86-S1-129 / 86-S1-128MS 86-S1-128MS 86-S1-128MSD MBLK1W	J (all detects) UJ (all non-detects)	A
10/17/05	Bis(2-chloroisopropyl)ether Benzo(k)fluoranthene	33.1 27.5	86-S1-130RE	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values were within method and validation criteria.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

#### X. Internal Standards

All internal standard areas and retention times were within QC limits with the following exceptions:

Sample	Internal Standards	Area (Limits)	Compound	Flag	AorP
86-S1-130RE	Perylene-d12	145405 (182354-729416)	Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	J (all detects) UJ (all non-detects)	A

## XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

# XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XV. Overall Assessment

Data flags are summarized at the end of this report if data has been qualified.

## XVI. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No semivolatiles were detected in any of the samples.

# XVII. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 05J053

SDG	Sample	Compound	Flag	A or P	Reason
04J053	86-S1-131 86-S1-132** 86-S1-133 86-S1-134** 86-S1-135 86-S1-136 86-S1-126 86-S1-128 86-S1-128 86-S1-129	Bis(2-chloroisopropyl)ether 2,4-Dinitrophenol 4-Nitrophenol Benzo(k)fluoranthene	J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)
04J053	86-S1-130RE	Bis(2-chloroisopropyl)ether  Benzo(k)fluoranthene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)
04J053	86-S1-130RE	Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Benzo(g,h,i)perylene	J (all detects) UJ (all non-detects)	A	Internal standards (area)

Moffett Air Field, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Airfield, Site 1, CTO 86

Collection Date: October 6, 2005

LDC Report Date: November 17, 2005

Matrix: Water

Parameters: Chlorinated Pesticides

Validation Level: EPA Level III & IV

Laboratory: EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J053

# Sample Identification

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-128MS

86-S1-128MSD

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

# I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

#### III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

# IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

## VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

# IX. Regional Quality Assurance and Quality Control

Not applicable.

# X. Pesticide Cleanup Checks

## a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

## b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

# XIV. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

# XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

**Collection Date:** 

October 6, 2005

LDC Report Date:

November 17, 2005

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J053

### Sample Identification

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-128MS

86-S1-128MSD

^{**}Indicates sample underwent EPA Level IV review.

#### Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

# II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

#### III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

## IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

#### V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

# VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

# VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

## IX. Regional Quality Assurance and Quality Control

Not applicable.

## X. Pesticide Cleanup Checks

## a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

#### b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

# XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

# XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### XIII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

## XIV. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

# XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: November 6, 2005

LDC Report Date: November 14, 2005

Matrix: Water

Parameters: Dissolved Mercury

Validation Level: EPA Level III & IV

**Laboratory:** EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 05J053

### Sample Identification

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-128MS

86-S1-128MSD

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

#### I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

#### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks.

## IV. ICP Interference Check Sample (ICS) Analysis

ICP was not utilized in this SDG.

## V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-128MS/MSD (All samples in SDG 05J053)	Dissolved mercury	-	67 (75-125)	-	J (all detects) UJ (all non-detects)	А

#### VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable.

#### VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

#### VIII. Internal Standards

ICP-MS was not utilized in this SDG.

## IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

#### X. ICP Serial Dilution

ICP serial dilution was not performed for this SDG.

### XI. Sample Result Verification

All sample result verifications were acceptable for samples on which a NFESC Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

#### XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XIII. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No metals were detected in any of the samples.

#### XIV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 05J053

SDG	Sample	Analyte	Flag	A or P	Reason
05J053	86-S1-131 86-S1-132** 86-S1-133 86-S1-134** 86-S1-135 86-S1-136 86-S1-126 86-S1-128 86-S1-129 86-S1-130	Dissolved mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Air Field, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 05J053

No Sample Data Qualified in this SDG

# Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name: Moffett Air Field, Site 1, CTO 86

Collection Date: October 4 through October 6, 2005

LDC Report Date: December 5, 2005

Matrix: Water

Parameters: Dissolved Metals

Validation Level: EPA Level III & IV

Laboratory: Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K0504756

## Sample Identification

86-S1-124

86-S1-125

86-S1-131

86-S1-132**

86-S1-133

86-S1-134**

86-S1-135

86-S1-136

00-01-100

86-S1-126

86-S1-128

86-S1-129

86-S1-130

86-S1-124MS

86-S1-124DUP

86-S1-128MS

86-S1-128DUP

^{**}Indicates sample underwent EPA Level IV review

#### Introduction

This data review covers 16 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7742, and EPA Method 200.8 for Dissolved Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (October 2004) as there are no current guidelines for the methods stated above.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified a P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

## I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

#### II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met with the following exceptions:

Date	Lab. Reference/ID	Analyte	%R (Limits)	Associated Samples	Flag	A or P
10/22/05	CCV2	Beryllium	113 (90-110)	PB	J (all detects)	Р

#### III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Barium	1.57 ug/L	All samples in SDG K0504756
ICB/CCB	Antimony Arsenic Beryllium Selenium Thallium	0.029 ug/L 0.011 ug/L 0.0221 ug/L 0.3 ug/L 0.08 ug/L	All samples in SDG K0504756

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-\$1-124	Antimony	0.376 ug/L	0.376U ug/L
	Beryllium (0.11x)	0.0073 ug/L	0.0073U ug/L
	Thallium (0.11x)	0.0403 ug/L	0.0403U ug/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-S1-125	Antimony	0.200 ug/L	0.200U ug/L
	Beryllium (0.11x)	0.0108 ug/L	0.0108U ug/L
86-S1-131	Antimony	0.244 ug/L	0.244U ug/L
	Beryllium (0.11x)	0.0042 ug/L	0.0042U ug/L
	Thallium (0.11x)	0.0014 ug/L	0.0014U ug/L
86-S1-132**	Antimony	0.236 ug/L	0.236U ug/L
	Beryllium (0,11x)	0.0046 ug/L	0.0046U ug/L
	Thallium (0.11x)	0.0011 ug/L	0.0011U ug/L
86-S1-133	Beryllium (0.21x)	0.0072 ug/L	0.0072U ug/L
86-S1-134**	Beryllium (0.22x)	0.0079 ug/L	0.0079U ug/L
86-\$1-135	Antimony	0.306 ug/L	0.306U ug/L
	Beryllium (0.22x)	0.0242 ug/L	0.0242U ug/L
86-S1-136	Beryllium (0.44x)	0.0294 ug/L	0.0294U ug/L
86-S1-126	Beryllium (0.12x)	0.0065 ug/L	0.0065U ug/L
	Thallium (0.24x)	0.0517 ug/L	0.0517U ug/L
86-S1-128	Beryllium (0.125x)	0.0102 ug/L	0.0102U ug/L
	Thallium (0.25x)	0.0031 ug/L	0.0031U ug/L
86-\$1-129	Beryllium (0.11x)	0.0054 ug/L	0.0054U ug/L
	Thaillium (0.22x)	0.0380 ug/L	0.0380U ug/L
86-S1-130	Antimony	0.484 ug/L	0.484U ug/L

# IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

# V. Matrix Spike Analysis

Matrix spike (MS) samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

# VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

# VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

# VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits with the following exceptions:

Date	Sample	Internal Standard	%R (Limits)	Analyte	Flag	Aorl
11/2/05	86-S1-132**	Indium ¹¹⁵ Lutetium ¹⁷⁵	170.7 (60-125) 149.5 (60-125)	Antimony Barium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
11/2/05	86-S1-134**	Indium ¹¹⁵ Lutetium ¹⁷⁵	132.6 (60-125) 149.1 (60-125)	Antimony Barium	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
11/22/05	86-\$1-132**	Scandium ⁴⁵ Nickei ⁸¹ Indium ¹¹⁵ Lutetium ¹⁷⁵	136.1 (60-125) 192.4 (60-125) 157.6 (60-125) 125.8 (60-125)	Arsenic Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) UJ (all non-detects)	А
11/22/05	86-S1-134**	Nickel ⁶¹ Indium ¹¹⁵	188.7 (60-125) 150.8 (60-125)	Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc	J (all detects) UJ (all non-detects)	А
1/22/05	86-S1-132**	Scandium ⁴⁵	145.1 (60-125)	Beryllium	J (all detects) UJ (all non-detects)	А
1/22/05	86-S1-134**	Scandium ⁴⁵	161.3 (60-125)	Beryllium	J (all detects) UJ (all non-detects)	A

# IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

#### X. ICP Serial Dilution

ICP serial dilution analysis was performed by the laboratory. The analysis criteria were met.

# XI. Sample Result Verification

All sample result verifications were acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

## XII. Overall Assessment of Data

Data flags are summarized at the end of this report if data has been qualified.

#### XIII. Field Duplicates

Samples 86-S1-131 and 86-S1-132** and samples 86-S1-133 and 86-S1-134** were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	Concentration (mg/Kg)		
Analyte	86-\$1-131	86-S1-132**	RPD	
Antimony	0.244	0.236	3	
Arsenic	0.95	1.95	69	
Barium	576	556	4	
Beryllium	0.0042	0.0046	9	
Chromium	0.56	0.59	5	
Cobalt	1.730	2.990	53	
Copper	0.031	0.060	64	
Nickel	4.69	4.80	2	
Thallium	0.0014	0.0011	24	

	Concentration (mg/Kg)			
Analyte	86-S1-131	86-S1-132**	RPD	
Vanadium	9.8	10.3	5	
Zinc	1.84	2.25	20	

	Concentra	ation (mg/Kg)		
Analyte	86-S1-133	86-S1-134**	RPD	
Arsenic	3,86	4.33	11	
Barium	150	150	О	
Beryllium	0.0072	0.0079	9	
Chromium	0.61	0.50	. 20	
Cobalt	2.270	2.280	0	
Copper	0.099	0.093	6	
Lead	0.017U	0.026	Not calculable	
Nickel	5,45	5,46	0	
Vanadium	7.3	10,6	37	
Zinc	31.3	20.6	41	

# XIV. Field Blanks

No field blanks were identified in this SDG.

# Moffett Air Field, Site 1, CTO 86 Dissolved Metals - Data Qualification Summary - SDG K0504756

SDG	Sample	Analyte	Flag	A or P	Reason
K0504756	86-S1-132**	Antimony Barium Arsenic Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc Beryllium	J (all detects) UJ (all non-detects)	Α	Internal standards (%R)
K0504756	86-S1-134**	Antimony Barium Nickel Arsenic Cadmium Chromium Cobalt Copper Silver Zinc Beryllium	J (all detects) UJ (all non-detects)	А	Internal standards (%R)

# Moffett Air Field, Site 1, CTO 86 Dissolved Metals - Laboratory Blank Data Qualification Summary - SDG K0504756

SDG	Sample	Analyte	Modified Final Concentration	A or P
K0504756	86-S1-124	Antimony Beryllium (0.11x) Thaliium (0.11x)	0.376U ug/L 0.0073U ug/L 0.0403U ug/L	Α
K0504756	86-S1-125	Antimony Beryllium (0.11x)	0.200U ug/L 0.0108U ug/L	Α
K0504756	86-\$1-131	Antimony Beryllium (0.11x) Thallium (0.11x)	0.244U ug/L 0.0042U ug/L 0.0014U ug/L	А
K0504756	86-\$1-132**	Antimony Beryllium (0.11x) Thallium (0.11x)	0.236U ug/L 0.0046U ug/L 0.0011U ug/L	A
K0504756	86-S1-133	Beryllium (0.21x)	0.0072U ug/L	Α

SDG	Sample	Analyte	Modified Final Concentration	A or P
K0504756	86-S1-134**	Beryllium (0.22x)	0.0079U ug/L	А
K0504756	86-S1-135	Antimony Beryllium (0.22x)	0.306U ug/L 0.0242U ug/L	A
K0504756	86-S1-136	Beryllium (0.44x)	0.0294U ug/L	A
K0504756	86-S1-126	Beryllium (0.12x) Thallium (0.24x)	0.0065U ug/L 0.0517U ug/L	А
K0504756	86-S1-128	Beryllium (0.125x) Thallium (0.25x)	0.0102U ug/L 0.0031U ug/L	А
K0504756	86-S1-129	Beryllium (0.11x) Thallium (0.22x)	0.0054U ug/L 0.0360U ug/L	А
<0504756	86-S1-130	Antimony	0.484U ug/L	A

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# APPENDIX D GROUNDWATER HYDROGRAPHS

FIGURE D-1

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT
GROUNDWATER HYDROGRAPHS, WELLS W1-1 AND W1-1R

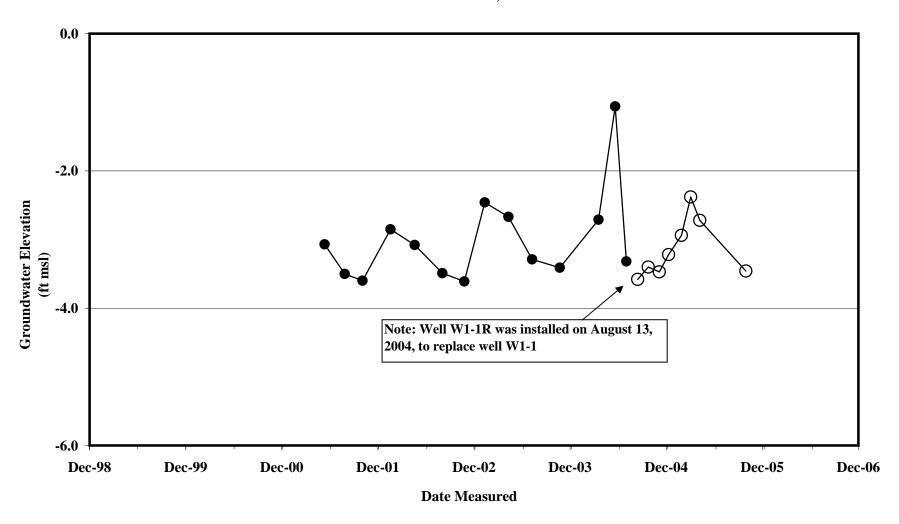


FIGURE D-2

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-5

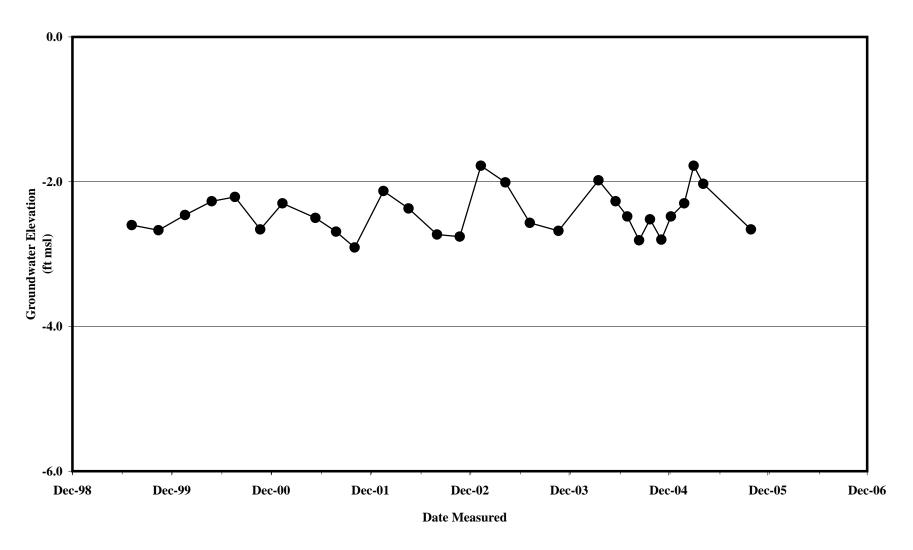


FIGURE D-3

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-6

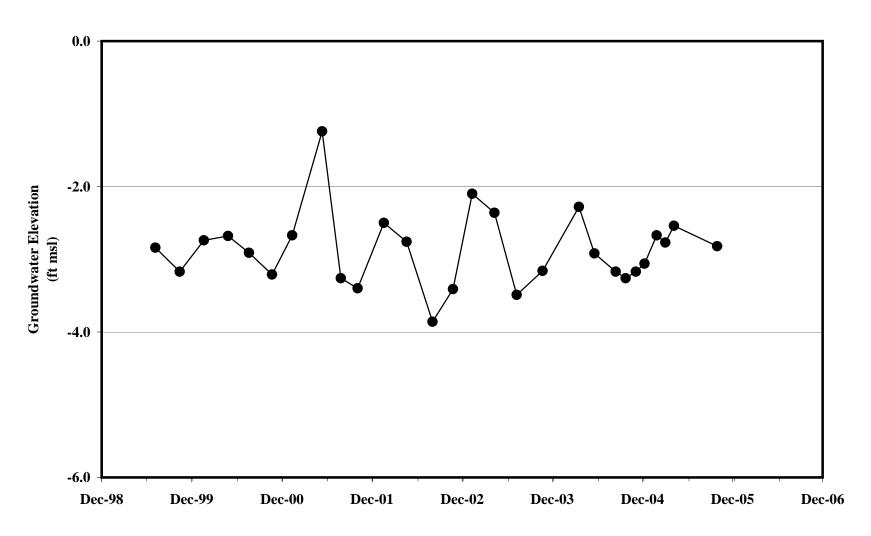


FIGURE D-4

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-7

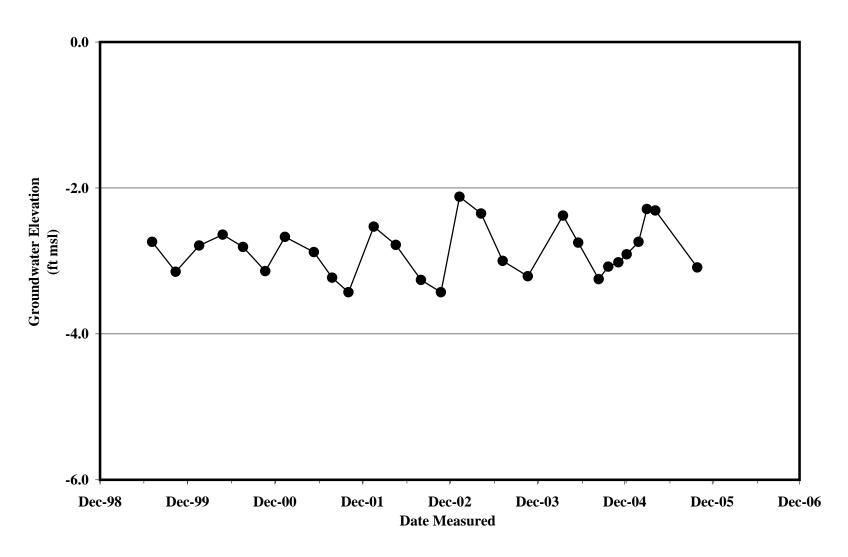


FIGURE D-5

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-8

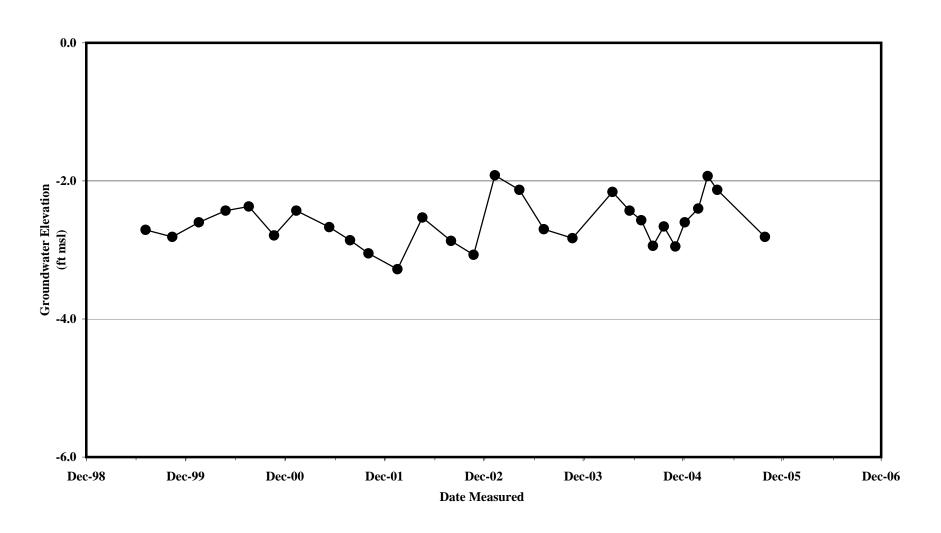


FIGURE D-6

### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPHS, WELLS W1-12 AND W1-12R

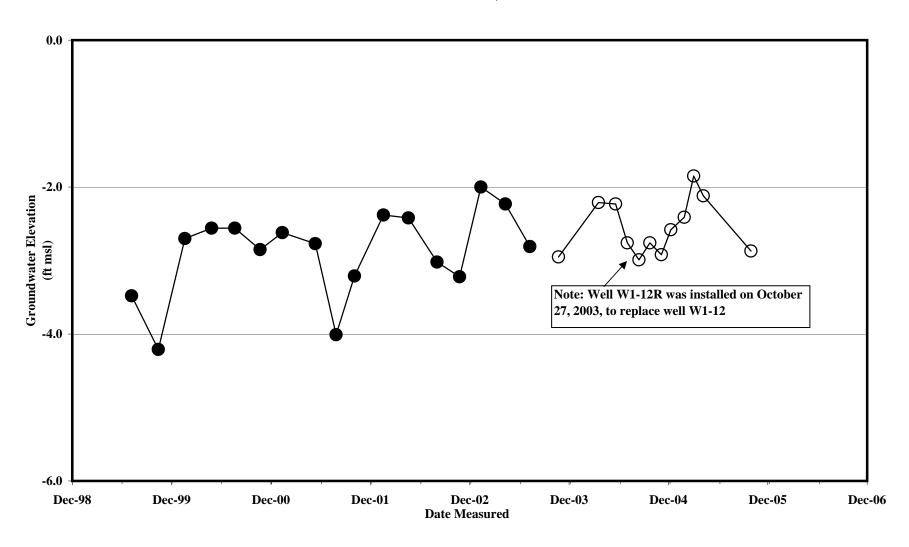


FIGURE D-7

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-14

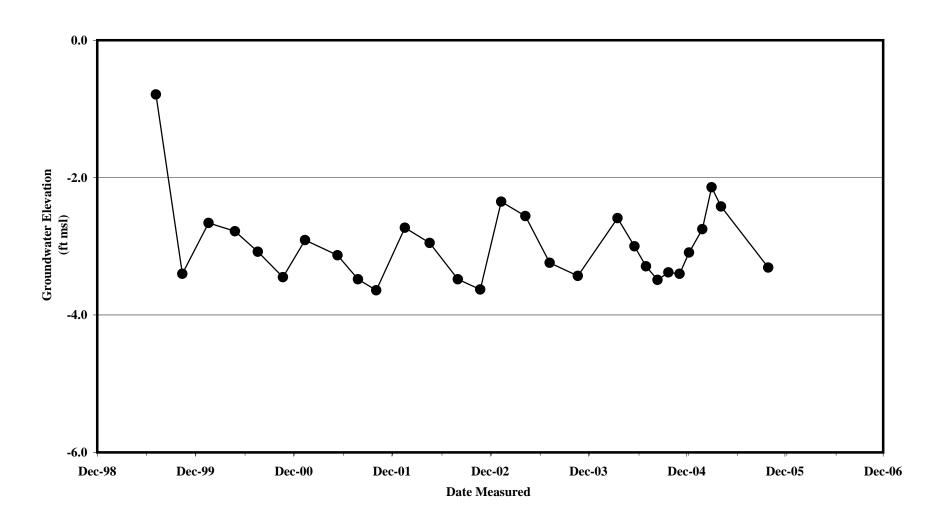


FIGURE D-8

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT

**GROUNDWATER HYDROGRAPH, WELL W1-15** 

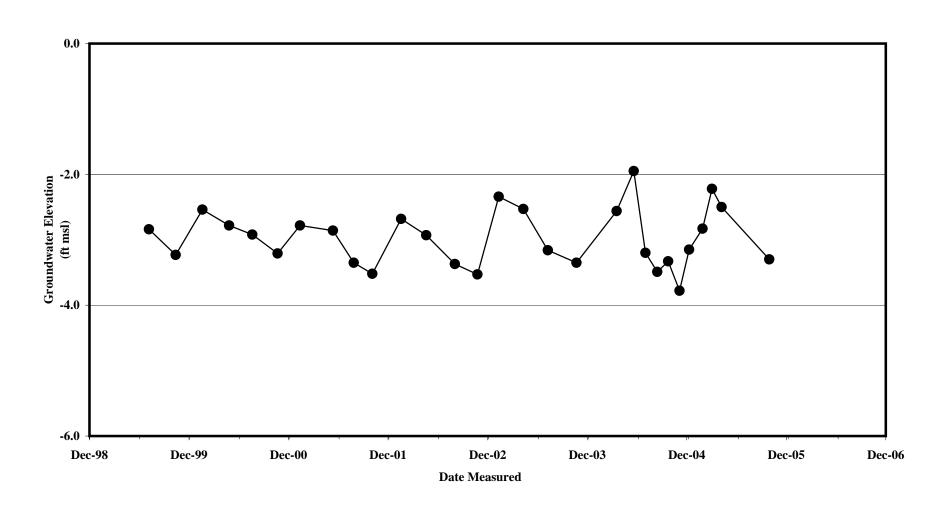


FIGURE D-9

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT
GROUNDWATER HYDROGRAPH, WELL W1-16

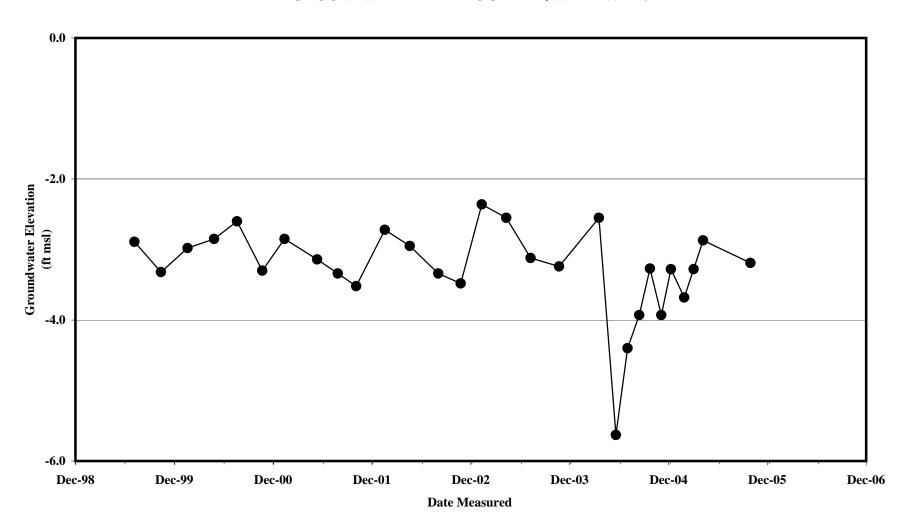


FIGURE D-10

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-19

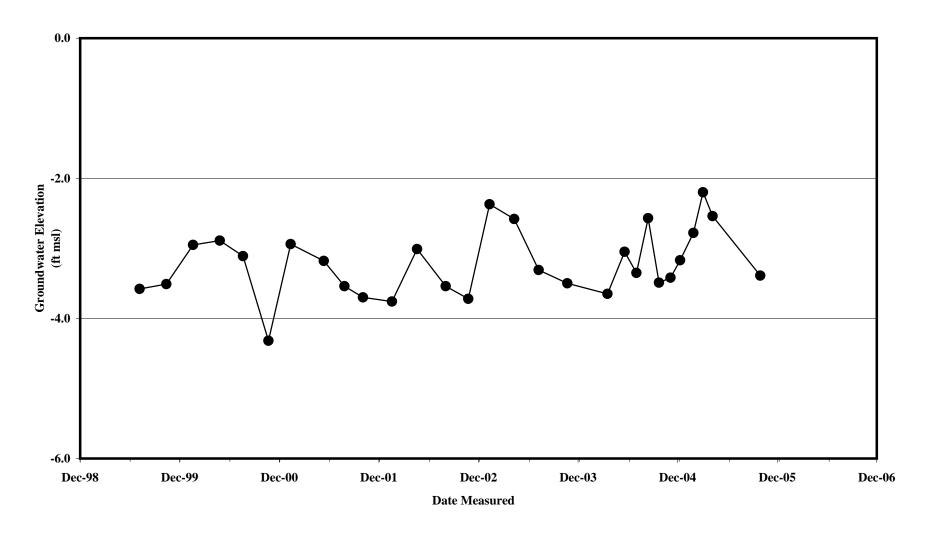


FIGURE D-11

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-20

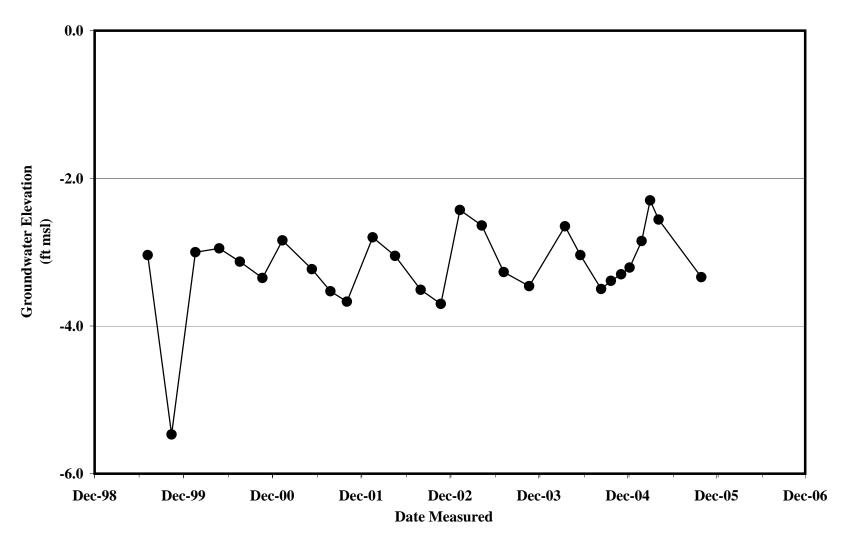


FIGURE D-12

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-22

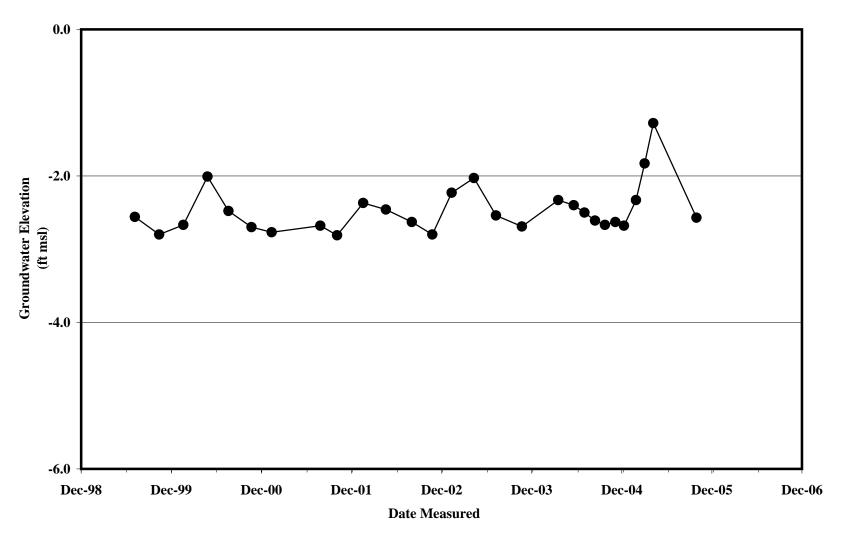
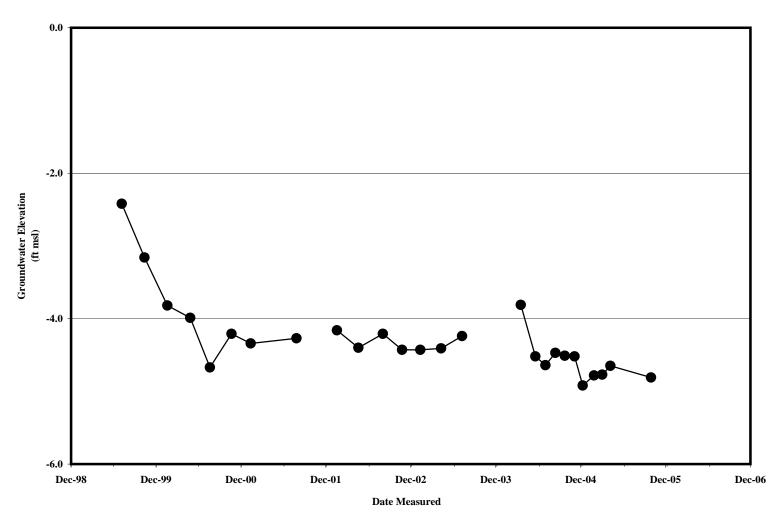


FIGURE D-13

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-23



### Notes:

1. Breaks in hydrograph line indicate that the collection trench was dry during the respective time period.

FIGURE D-14

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL W1-24

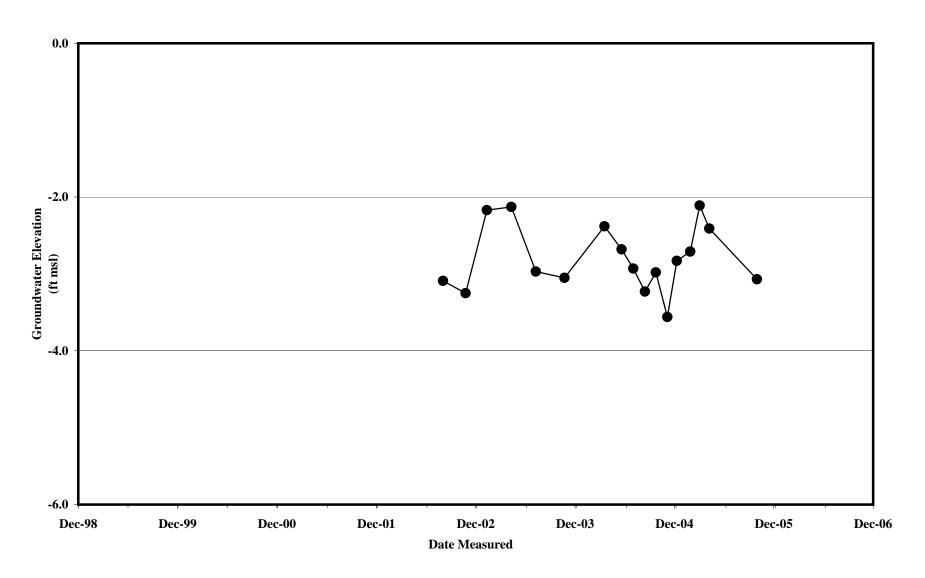


FIGURE D-15

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT
GROUNDWATER HYDROGRAPH, PIEZOMETER PZ1-18

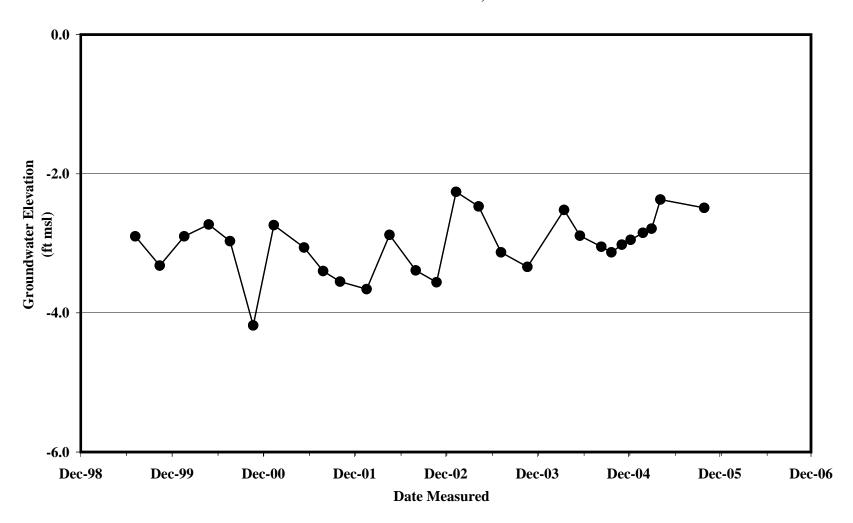
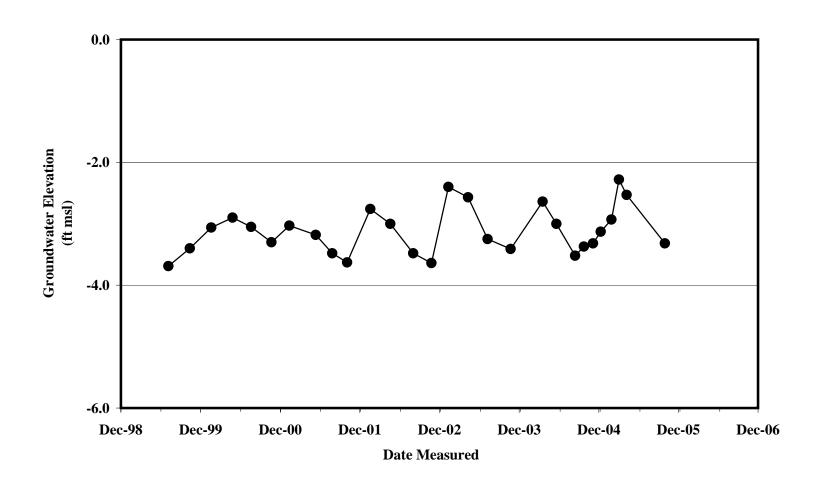


FIGURE D-16

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPH, WELL PZ1-21



DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT GROUNDWATER HYDROGRAPHS, PIEZOMETER PZ1-18 AND WELL W1-19

FIGURE D-17

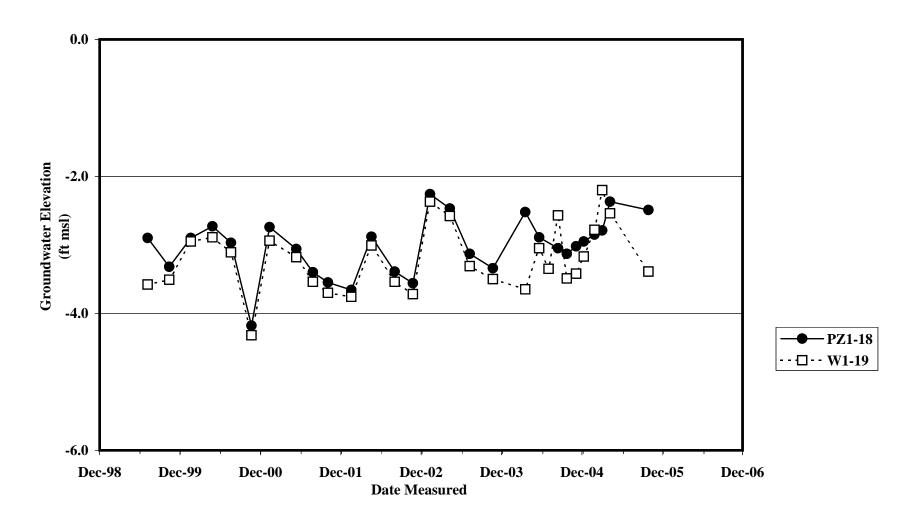
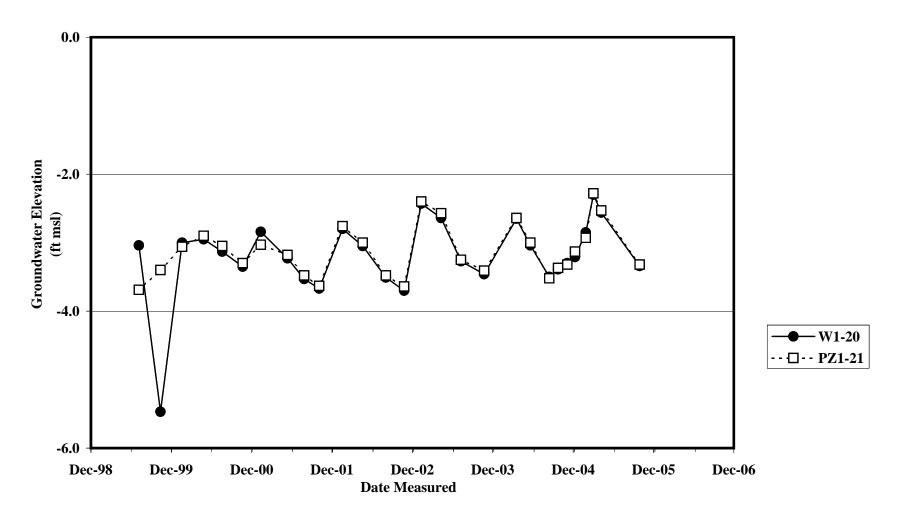


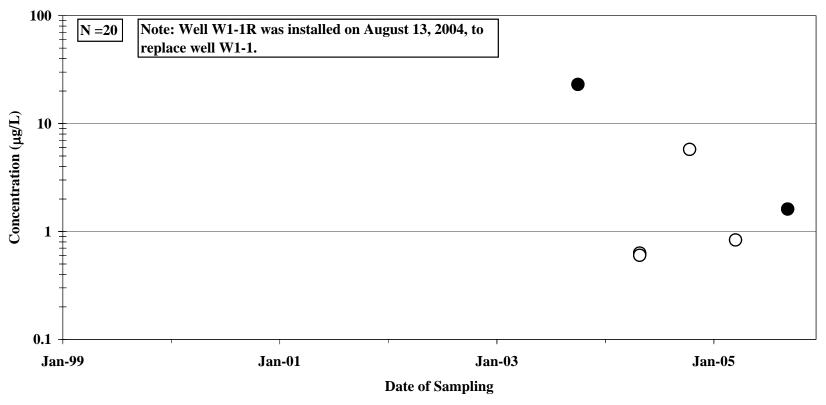
FIGURE D-18

DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT
GROUNDWATER HYDROGRAPHS, PIEZOMETER PZ1-21 AND WELL W1-20



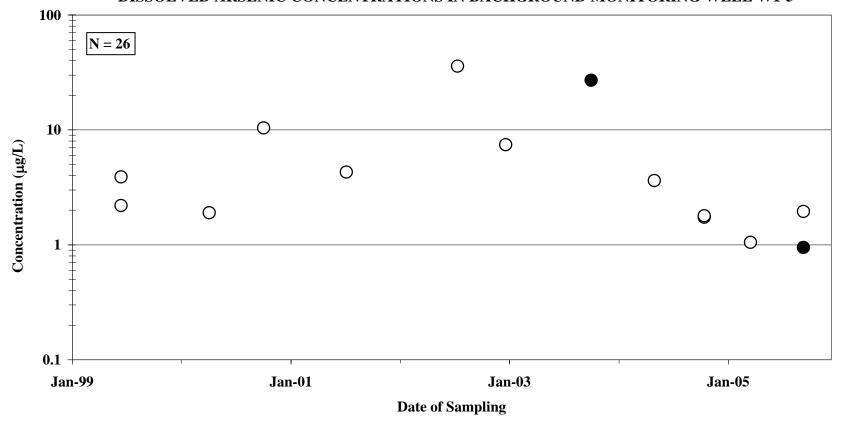
# APPENDIX E GROUNDWATER MONITORING POINT DATA GRAPHS

FIGURE E-1



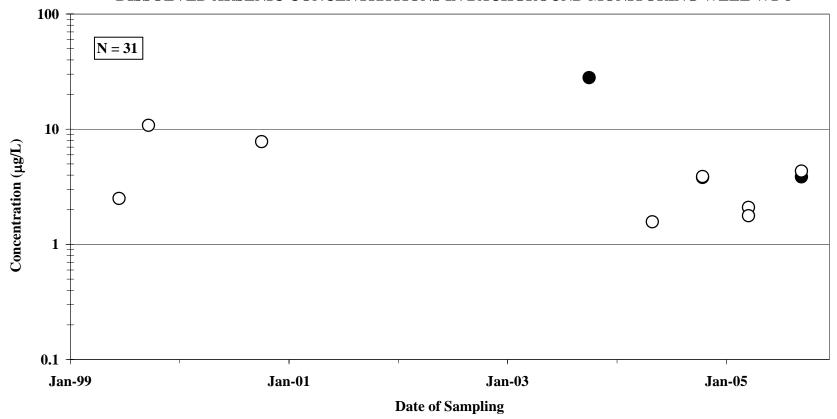
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-2



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

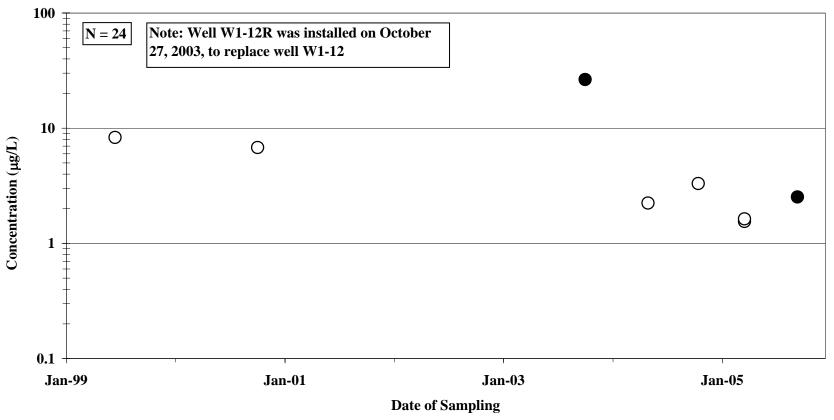
FIGURE E-3



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

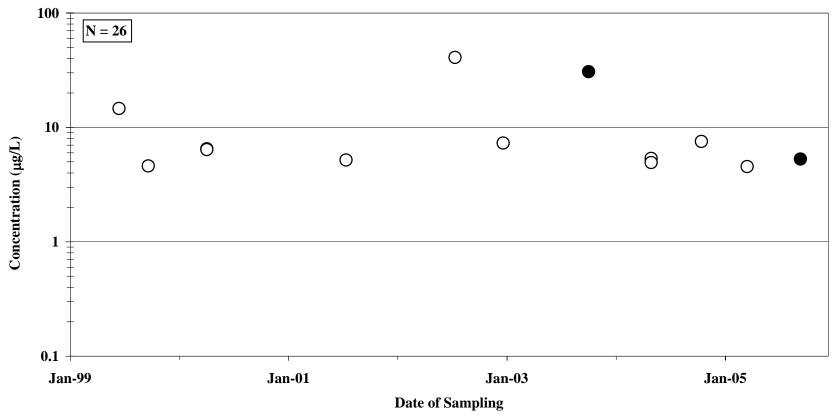
FIGURE E-4

### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED ARSENIC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R



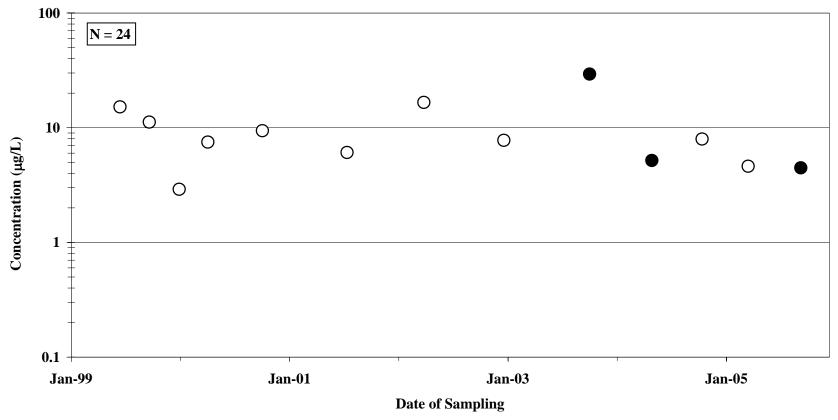
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-5



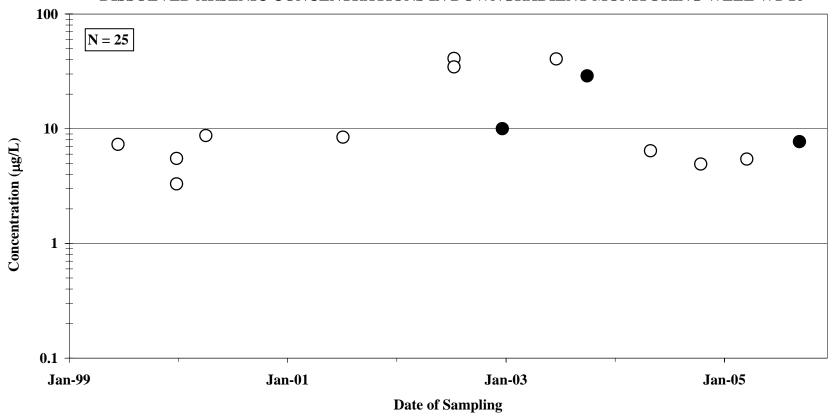
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-6



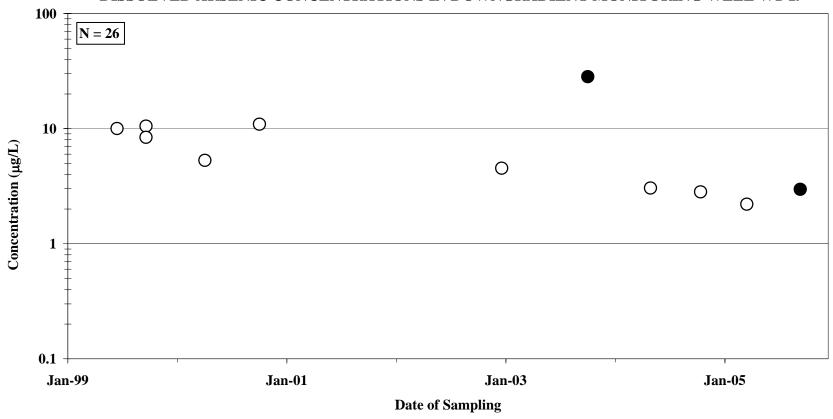
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-7



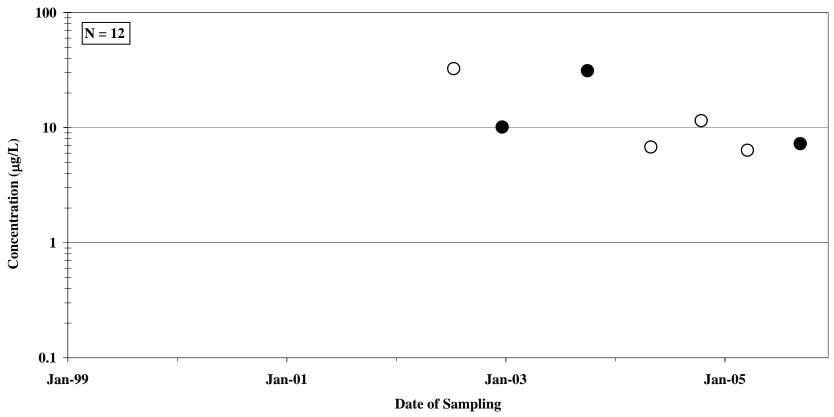
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-8



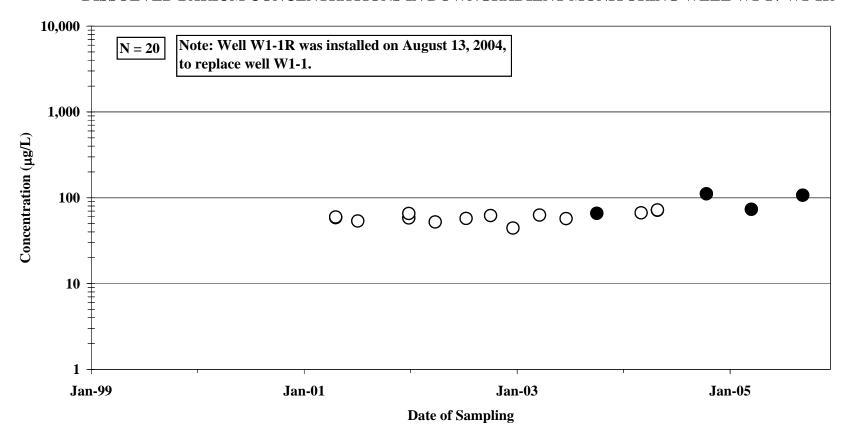
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-9



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

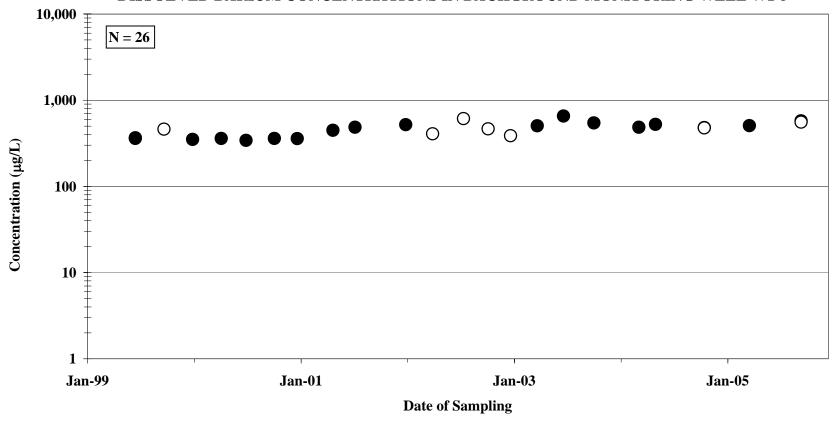
**FIGURE E-10** 



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

**FIGURE E-11** 

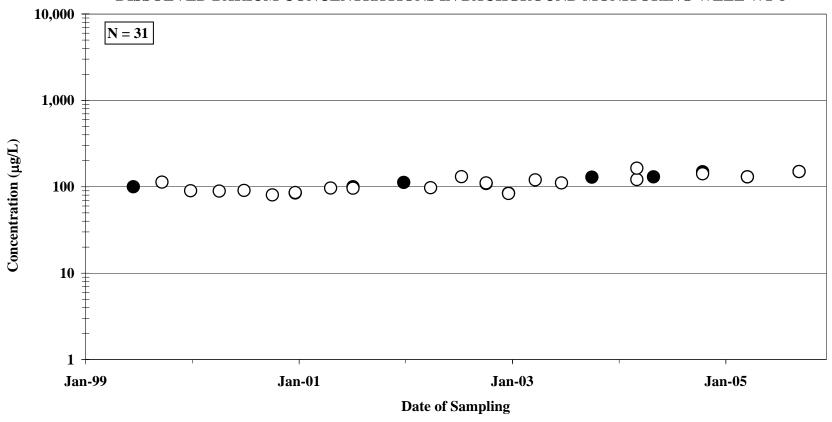
### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

**FIGURE E-12** 

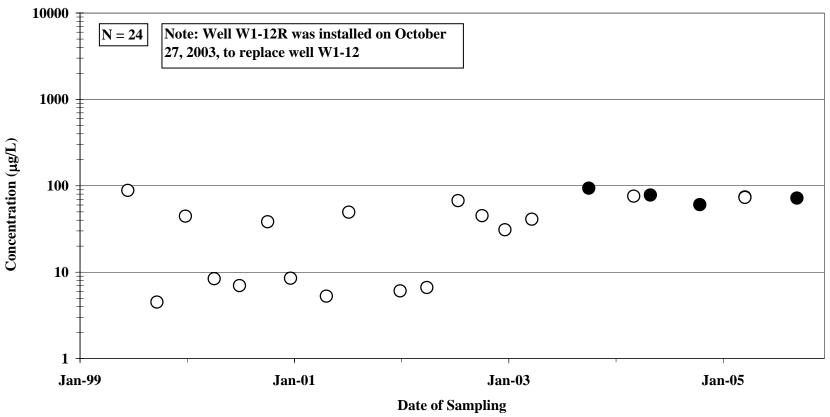
### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

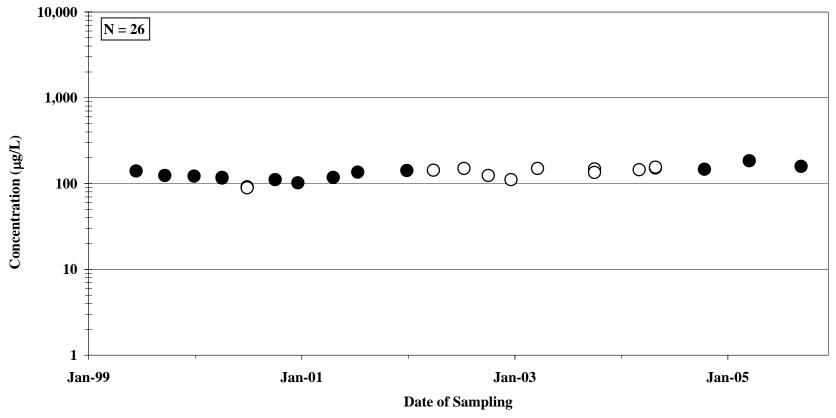
**FIGURE E-13** 

### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R



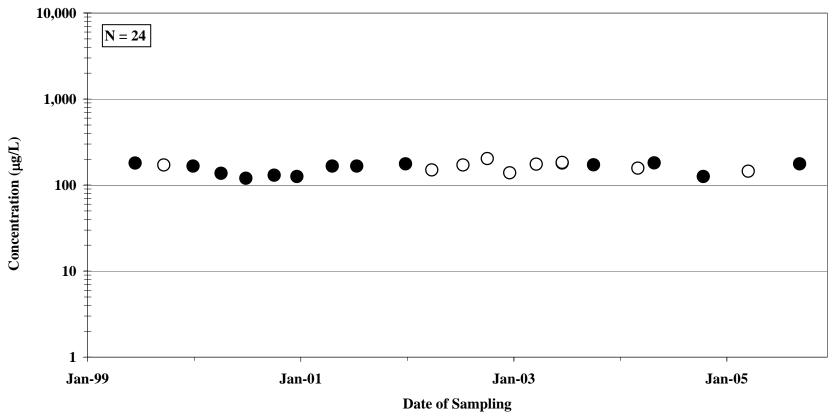
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-14



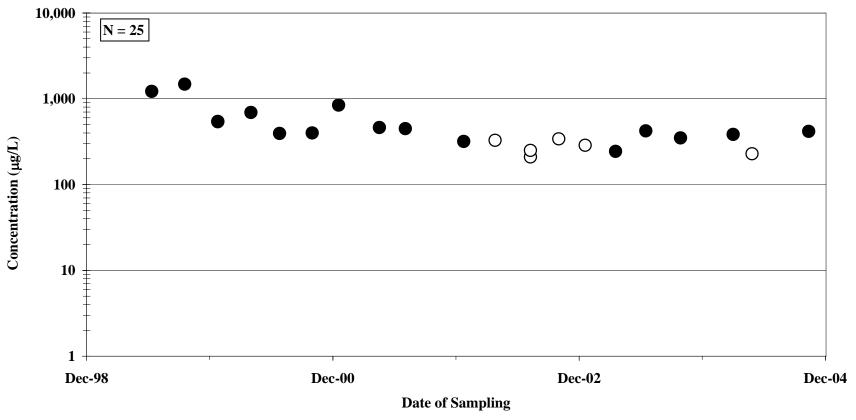
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-15



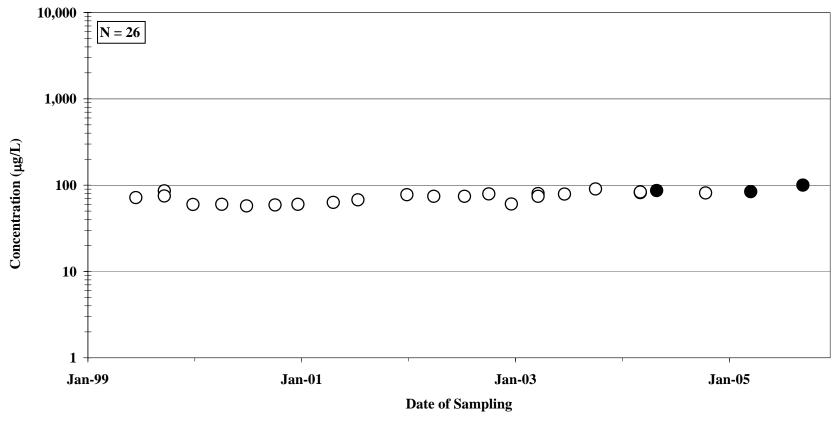
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-16



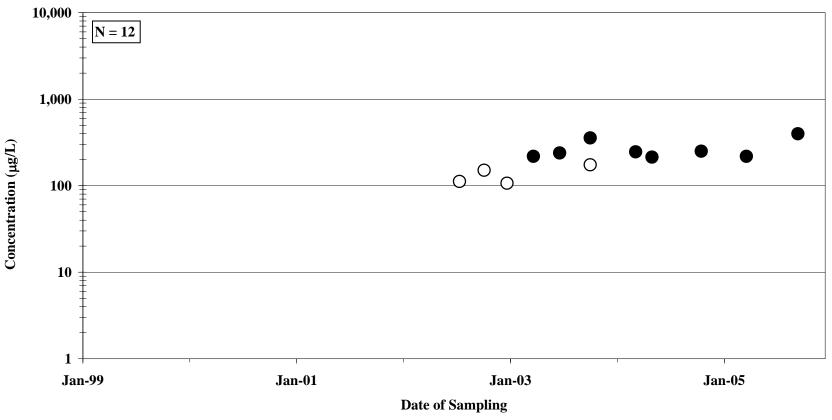
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-17



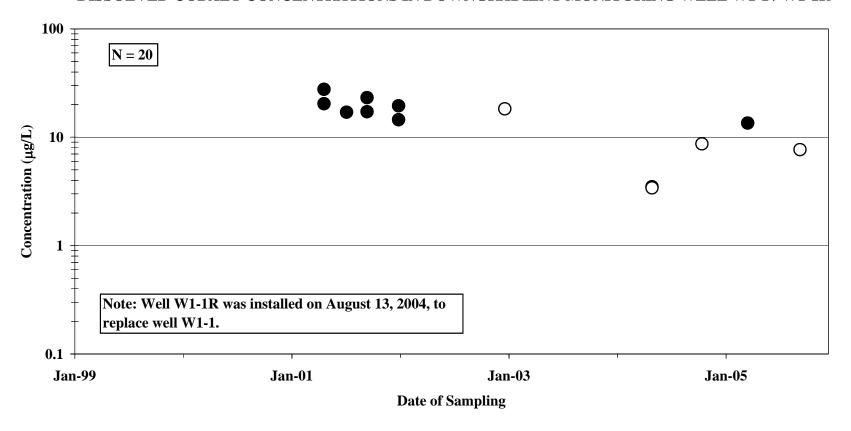
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-18



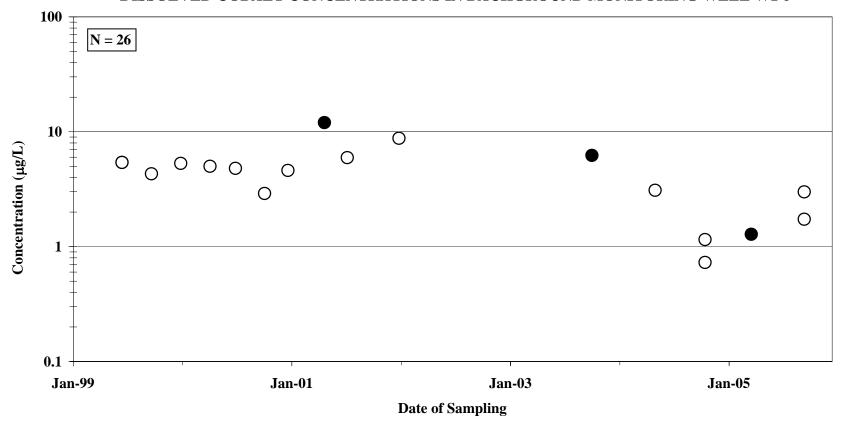
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-19



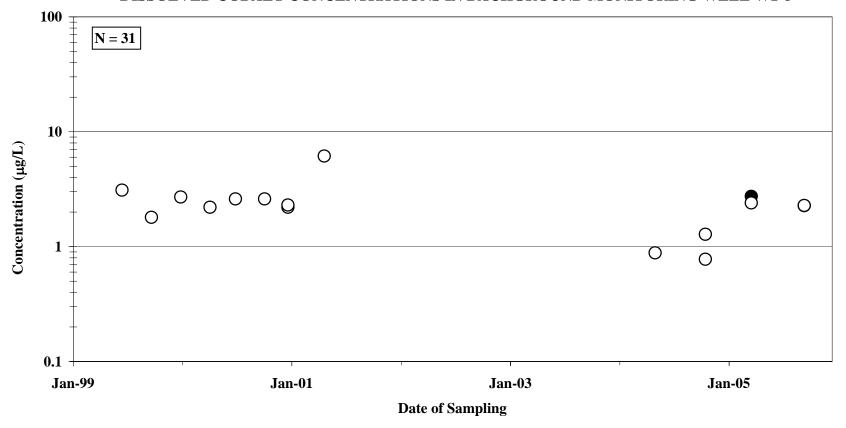
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-20



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

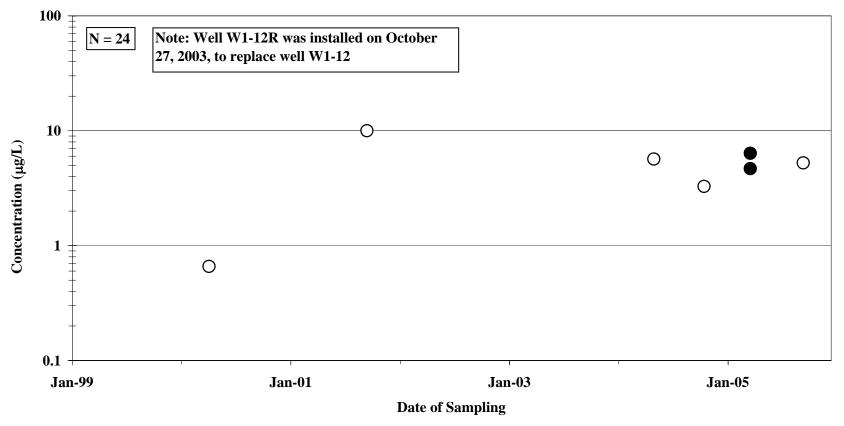
FIGURE E-21



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

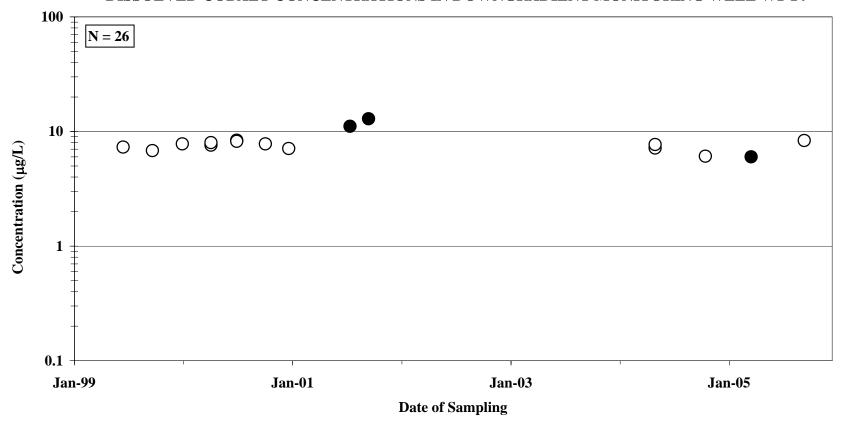
FIGURE E-22

## DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED COBALT CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R



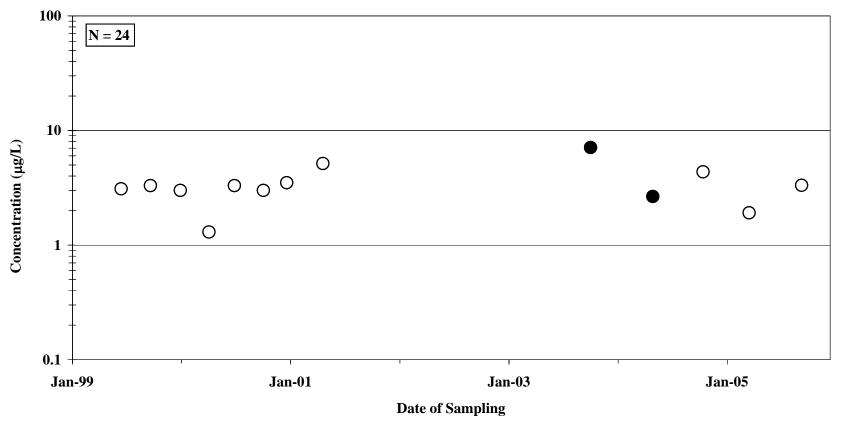
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-23



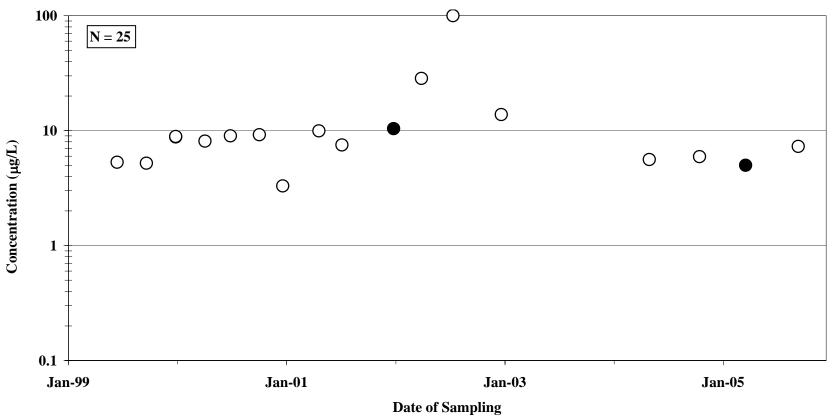
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-24



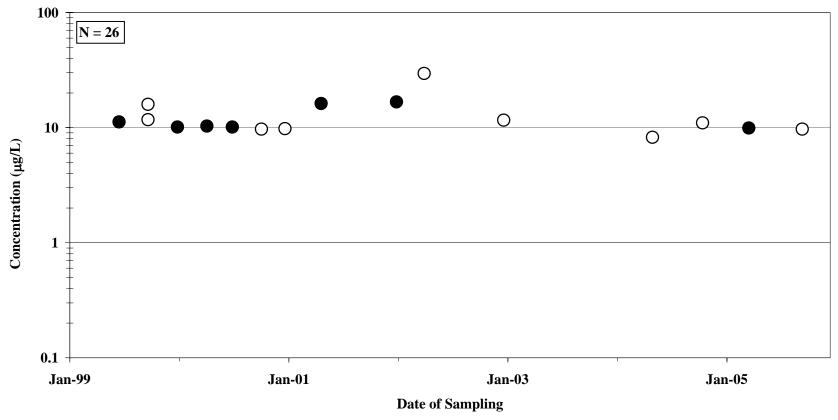
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-25



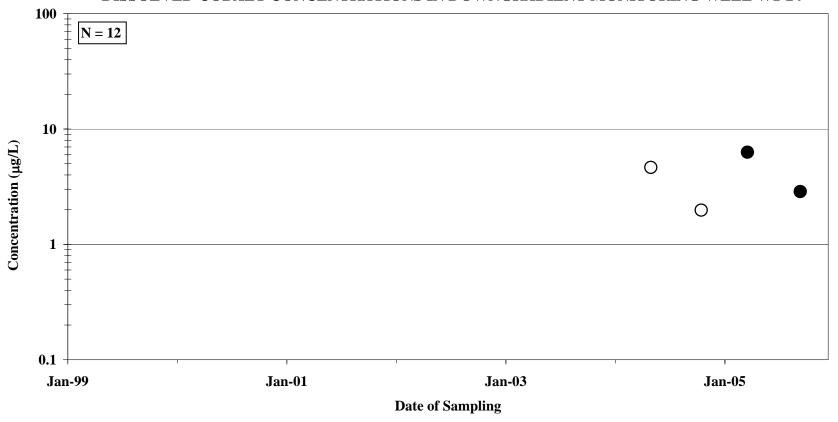
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-26



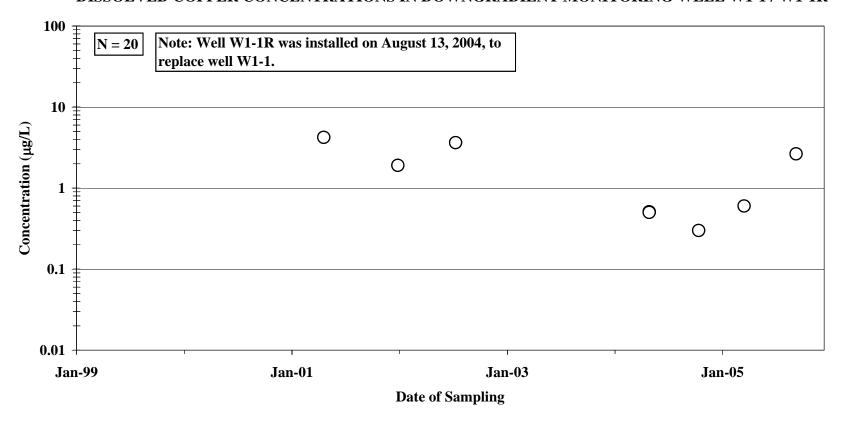
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-27



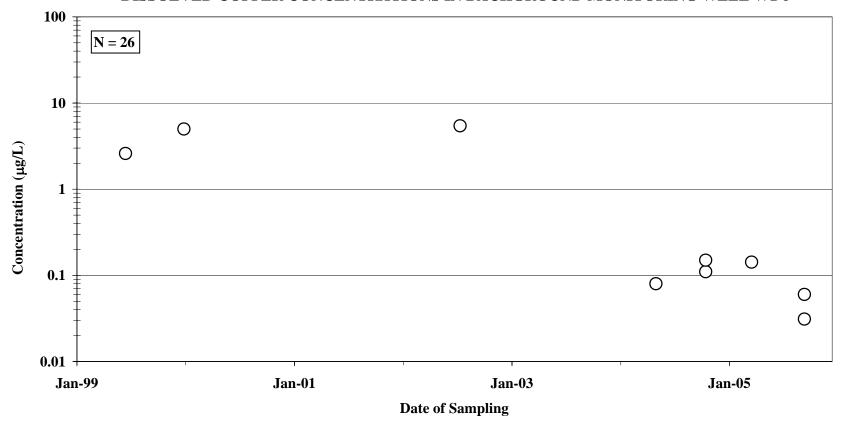
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-28



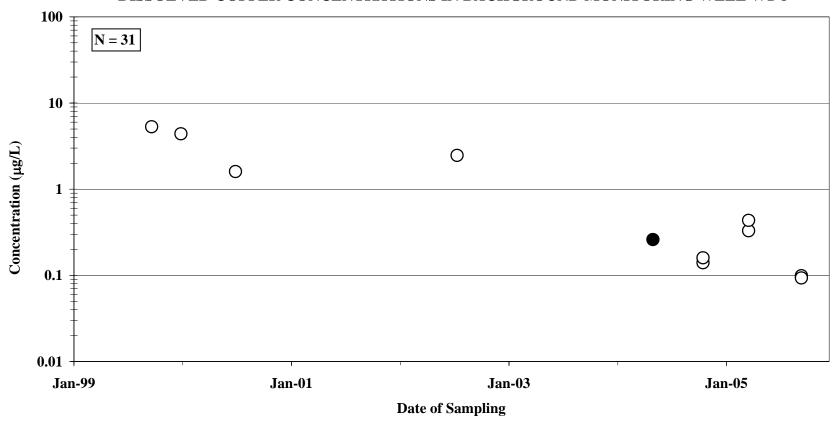
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-29



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

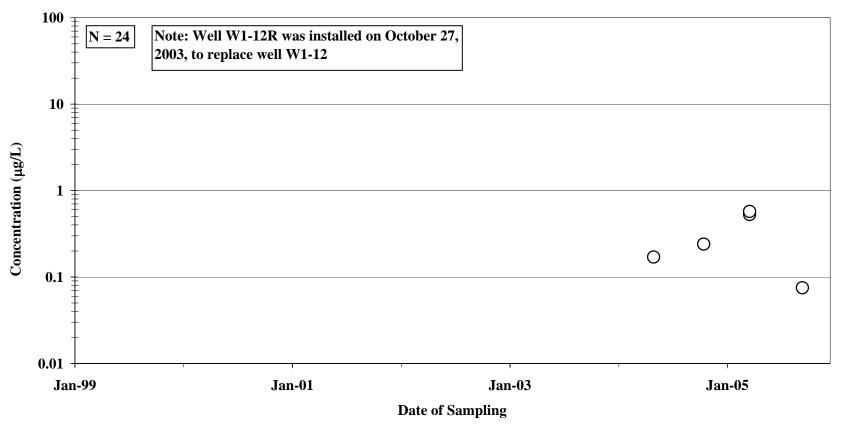
FIGURE E-30



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

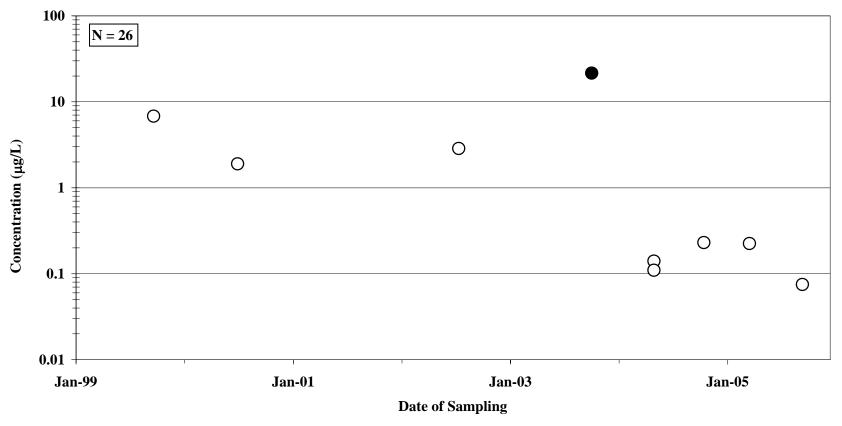
FIGURE E-31

### DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT DISSOLVED COPPER CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R



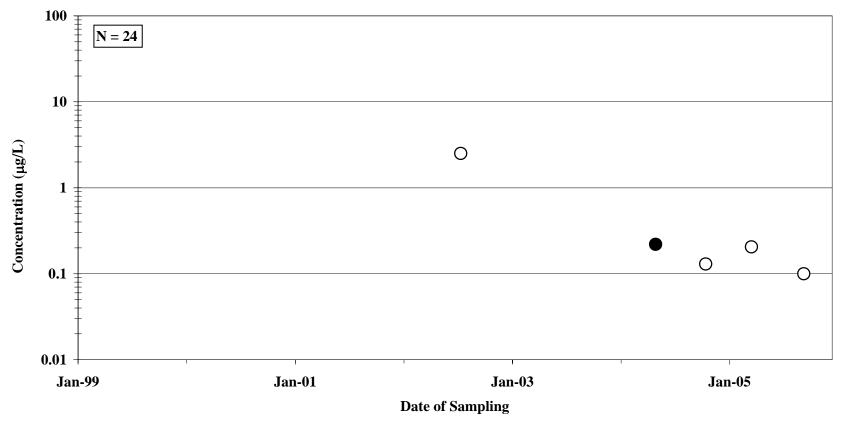
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-32



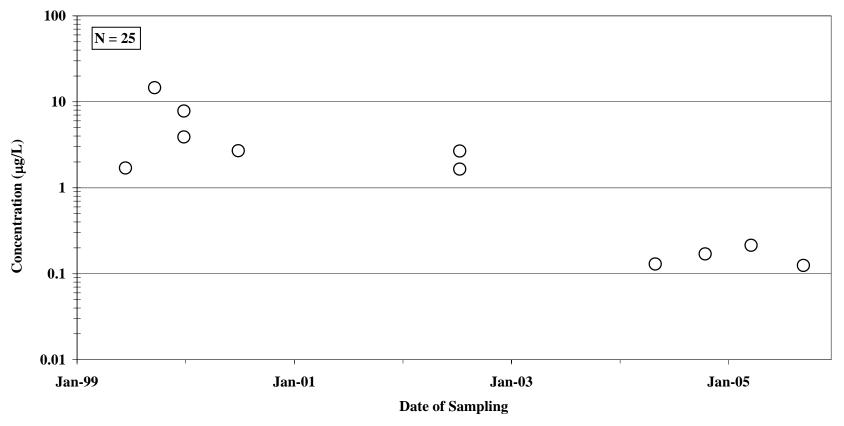
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-33



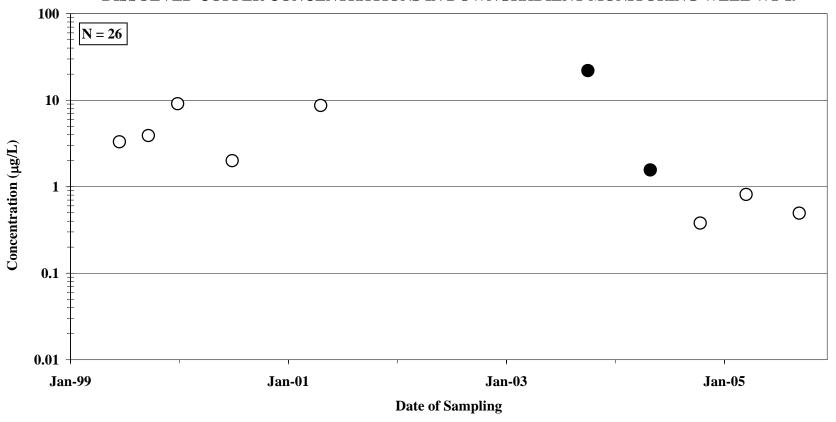
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-34



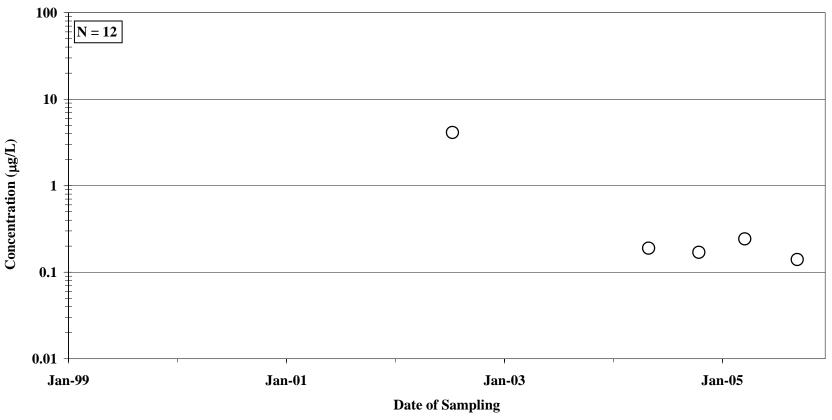
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-35



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-36



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

# APPENDIX F METHANE MONITORING DATA GRAPHS

FIGURE F-1

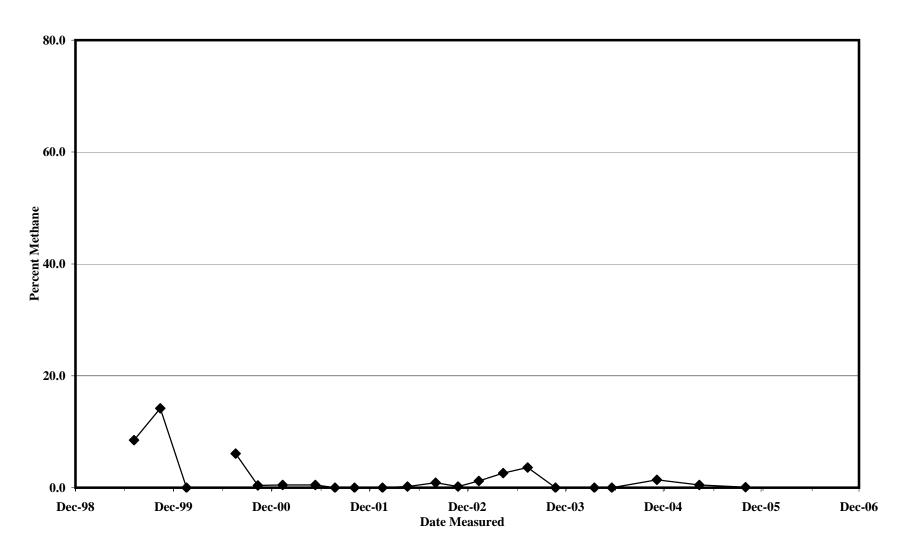


FIGURE F-2

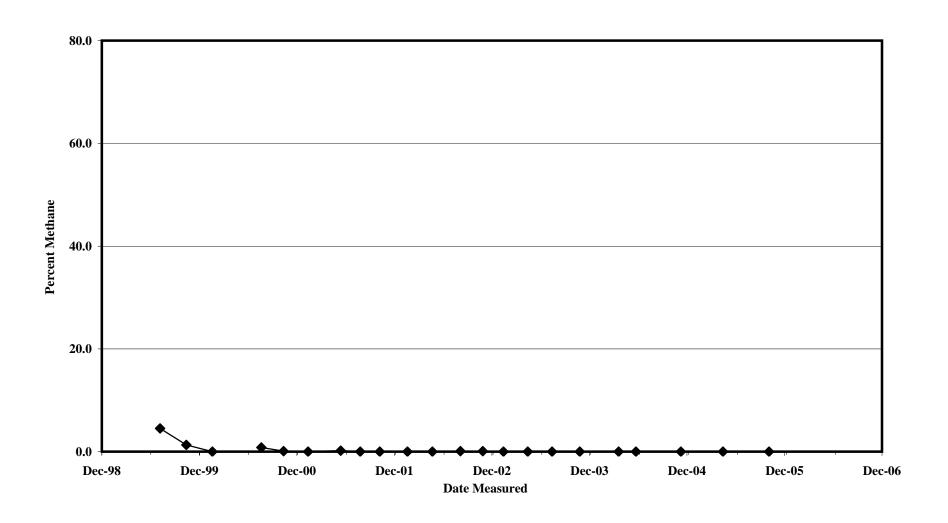


FIGURE F-3

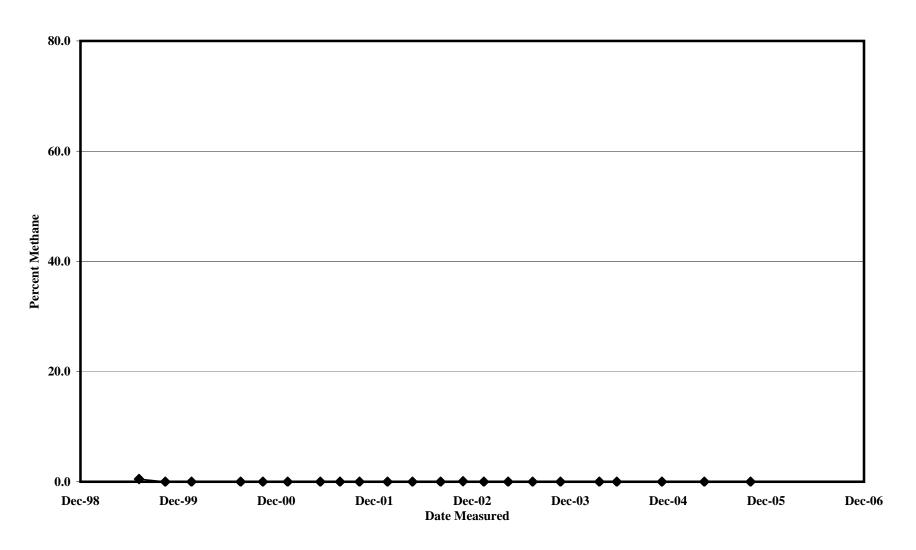
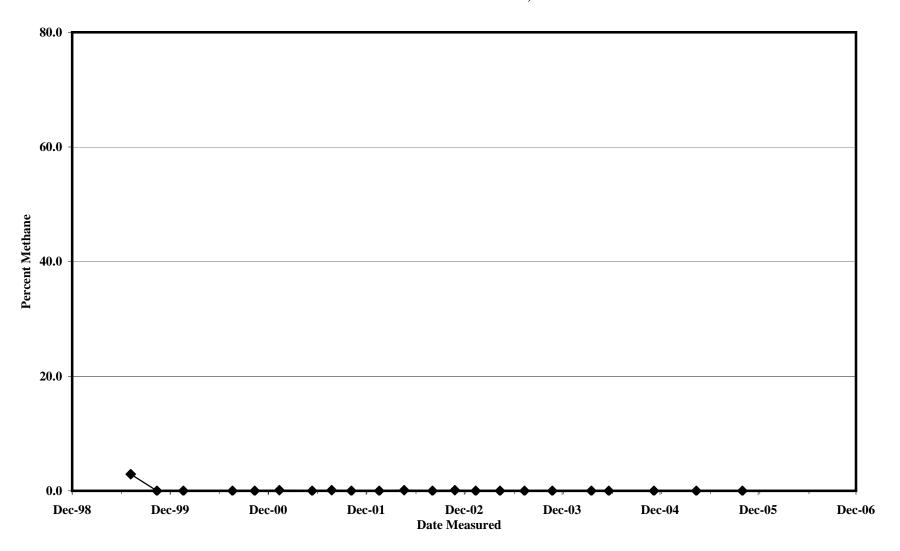


FIGURE F-4



DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT

FIGURE F-5

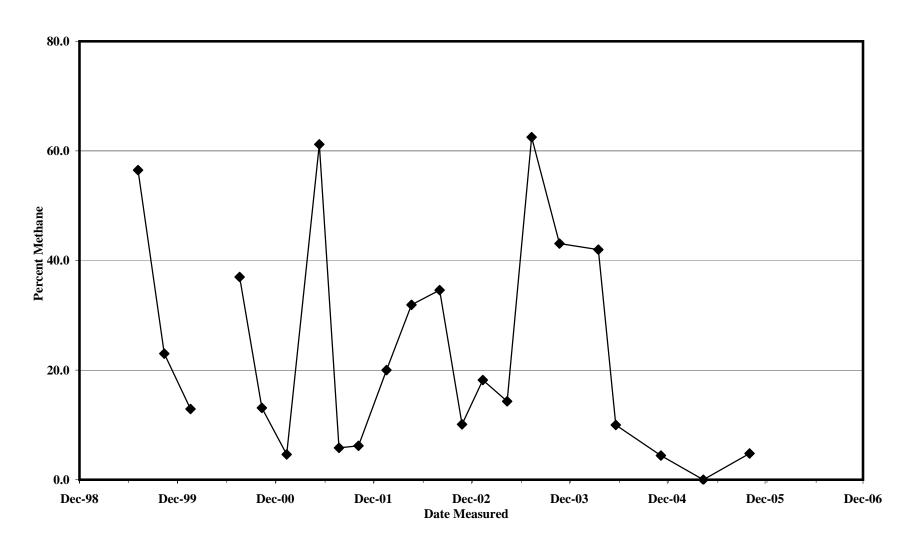


FIGURE F-6

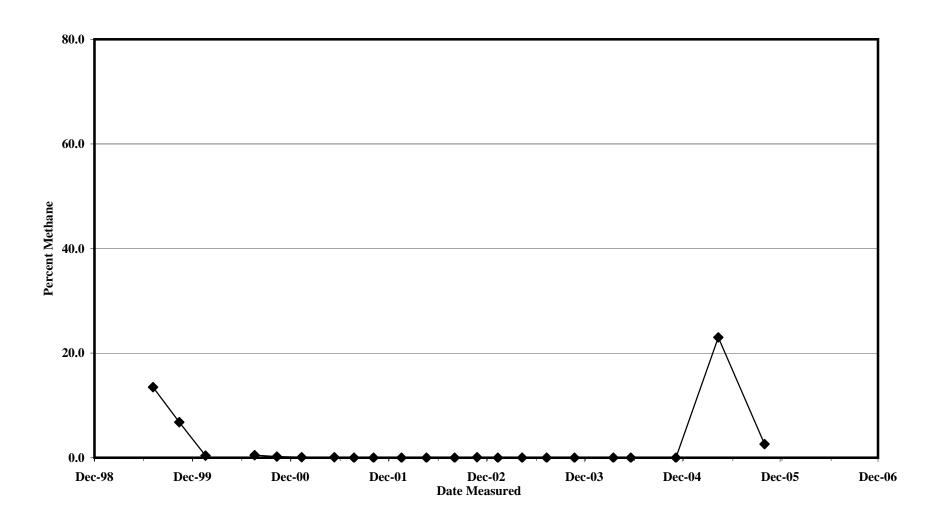


FIGURE F-7

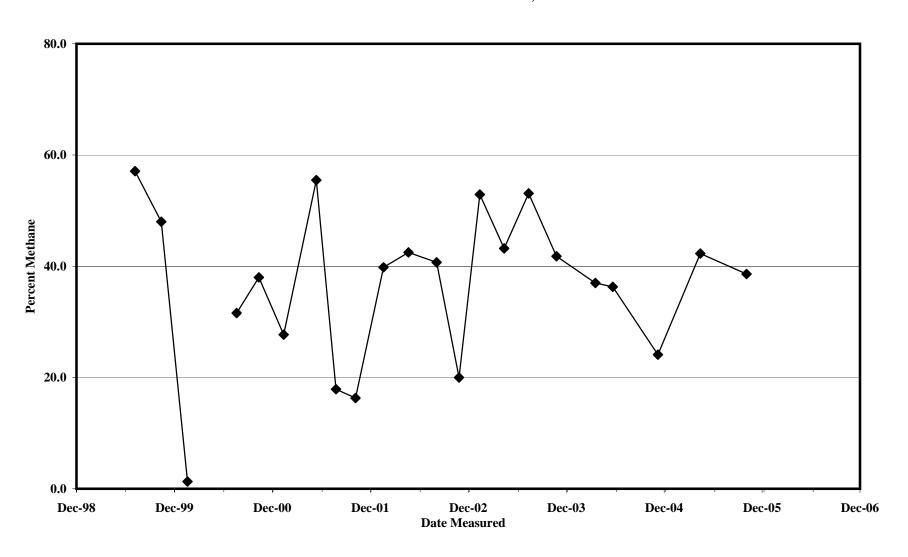


FIGURE F-8

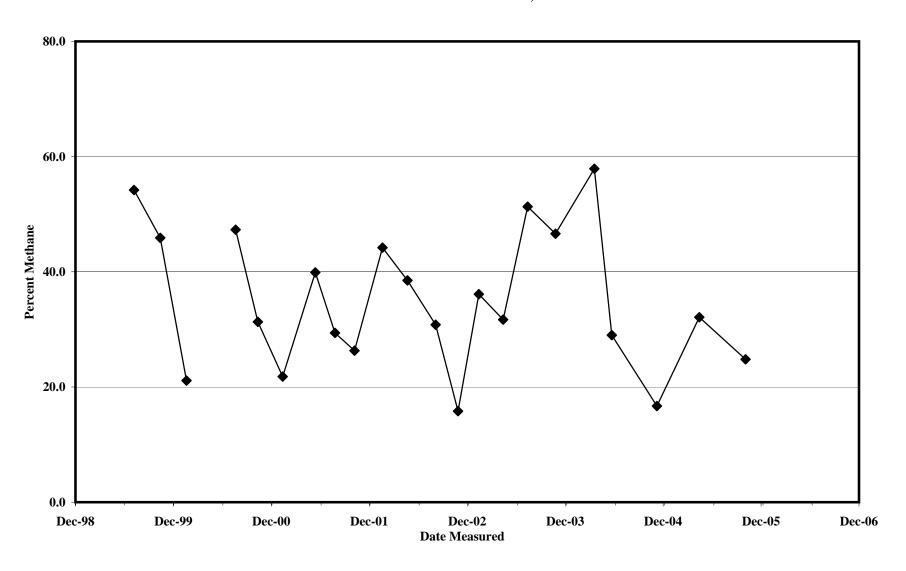


FIGURE F-9

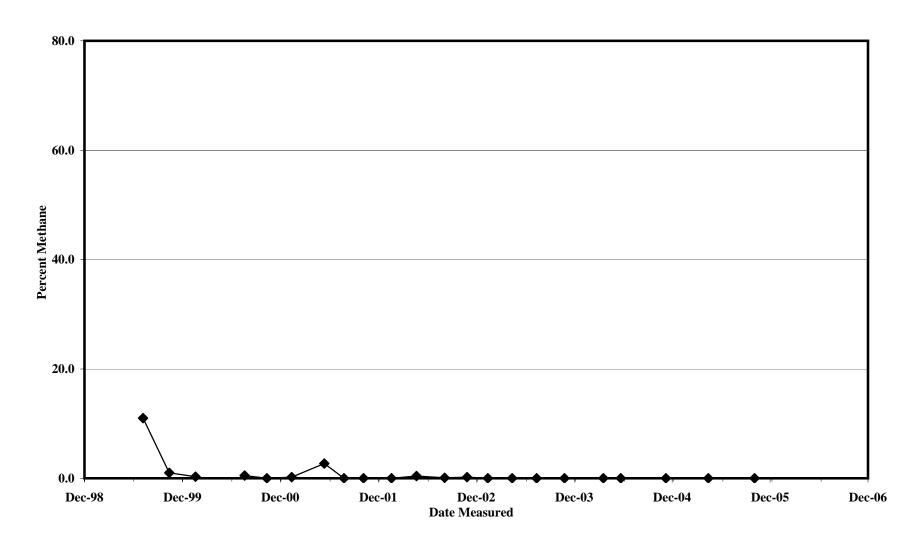


FIGURE F-10

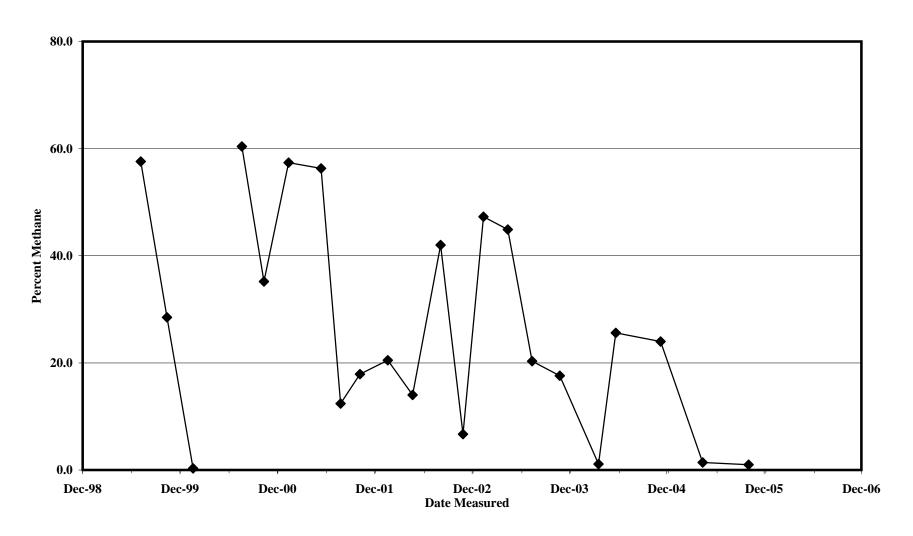


FIGURE F-11

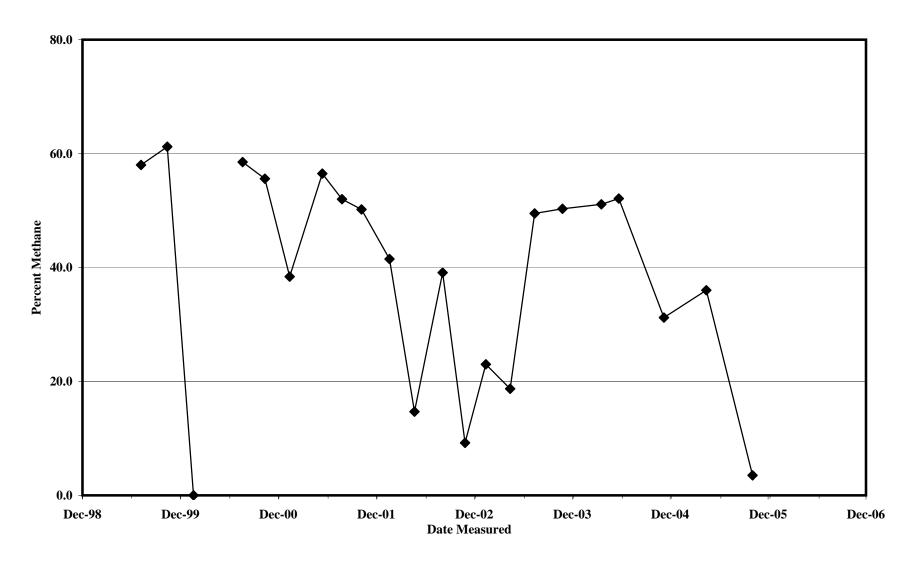


FIGURE F-12

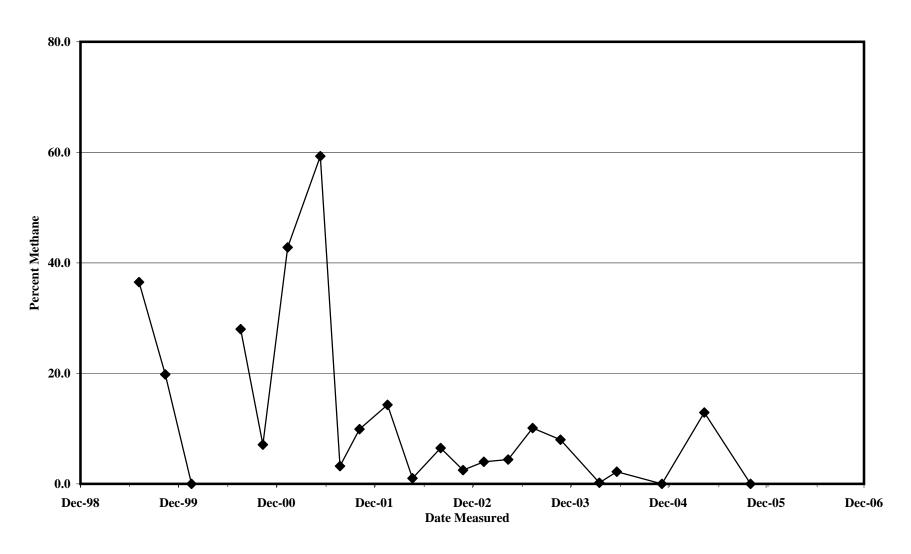


FIGURE F-13

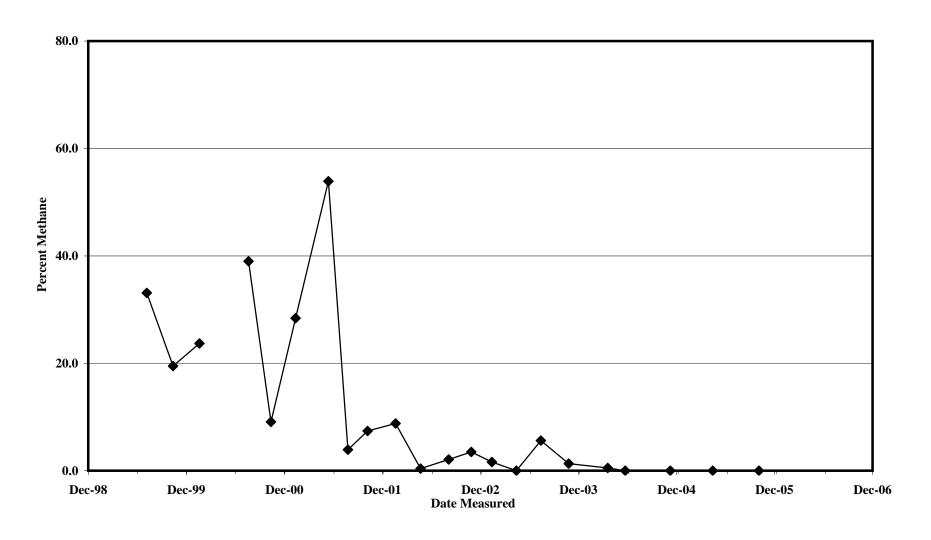


FIGURE F-14

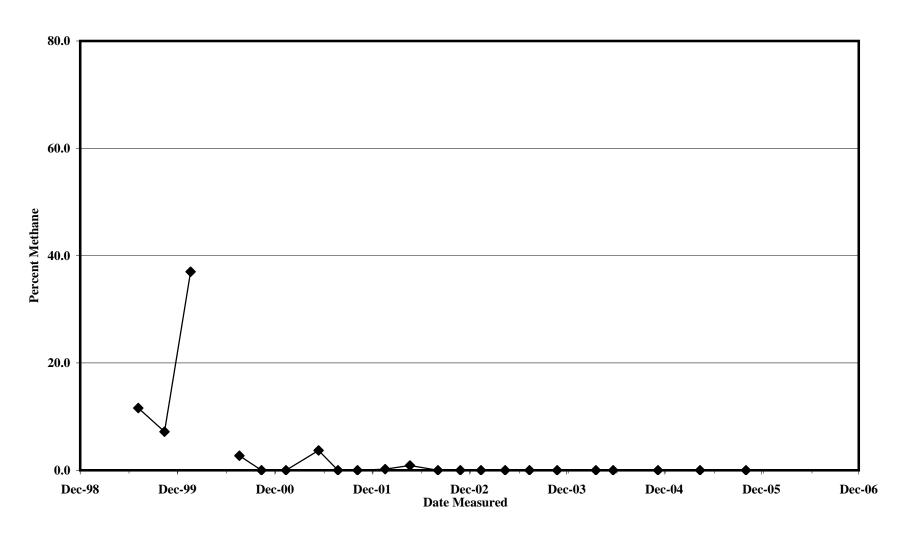


FIGURE F-15

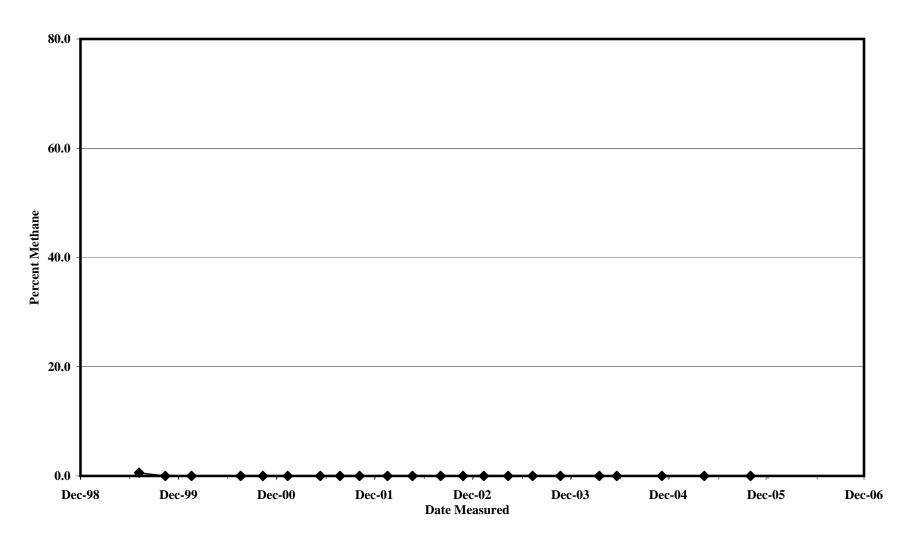


FIGURE F-16

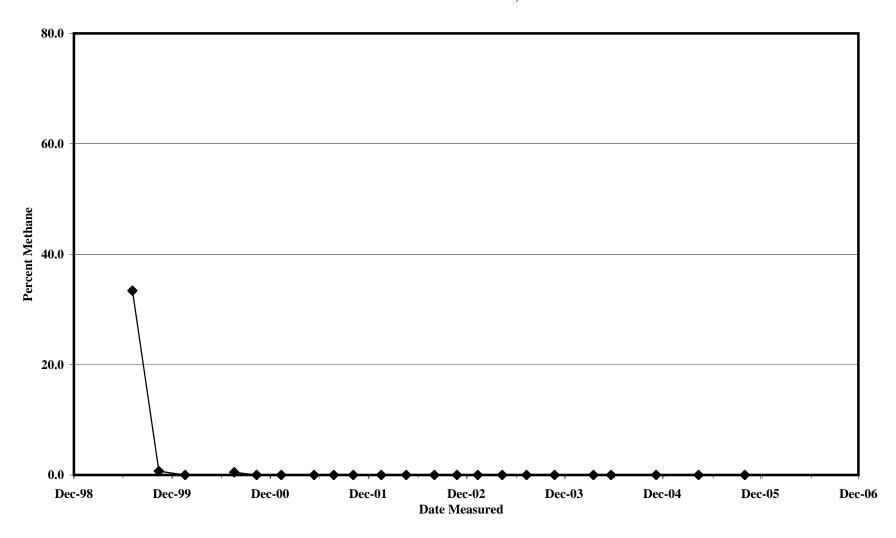
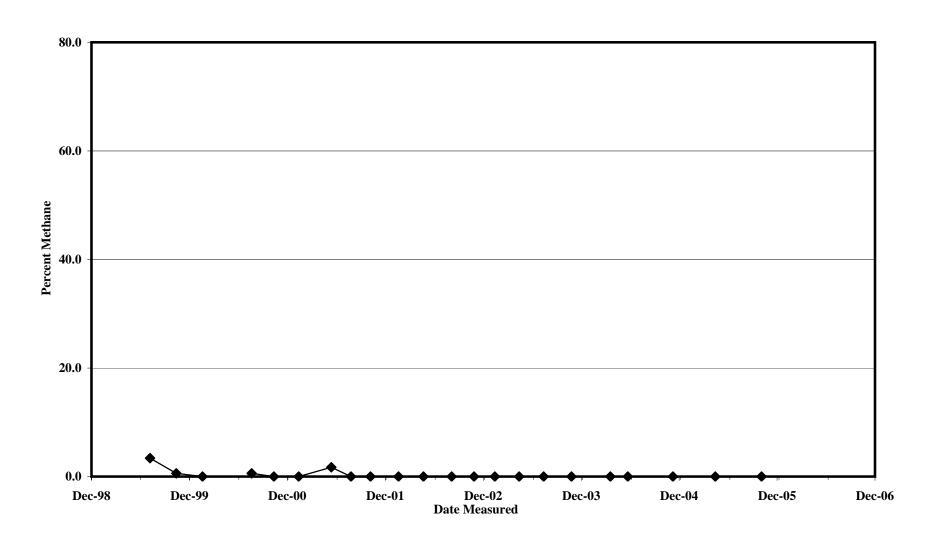


FIGURE F-17



**FIGURE F-18** 

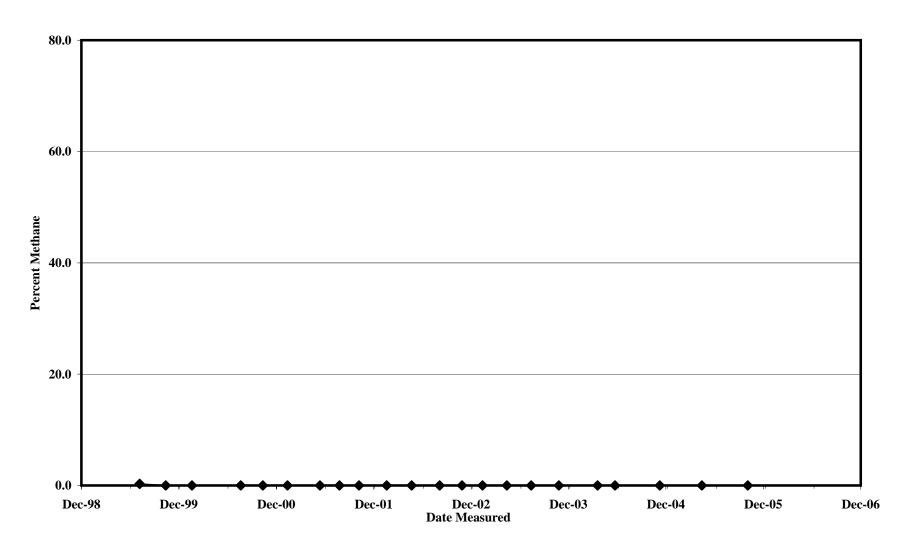
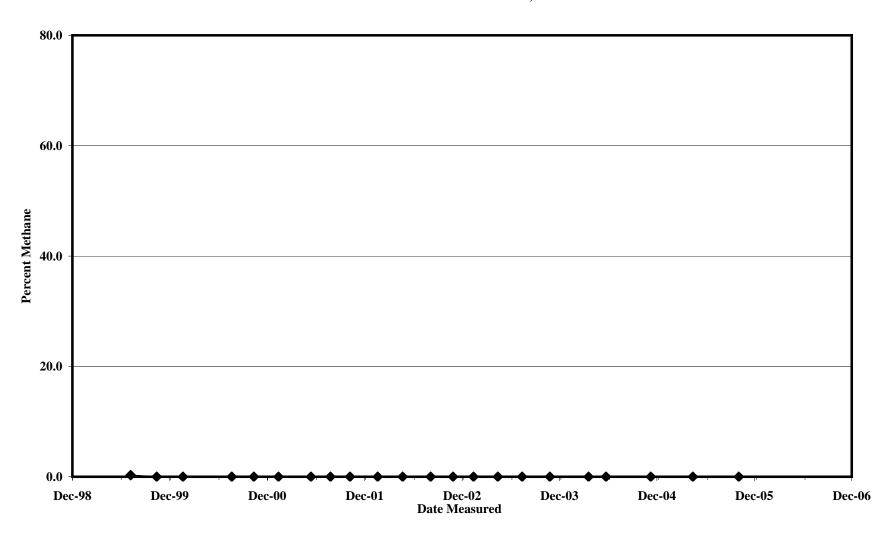


FIGURE F-19



DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT
TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-1

FIGURE F-20

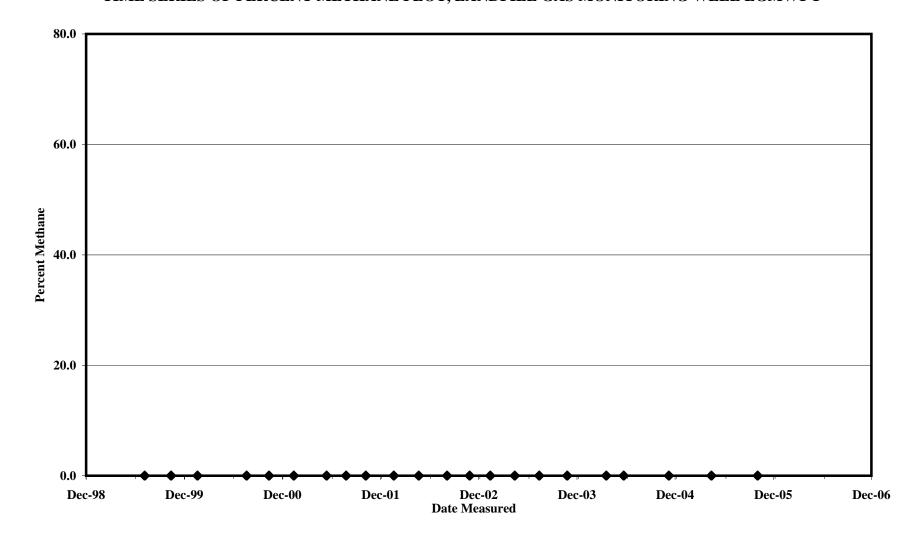
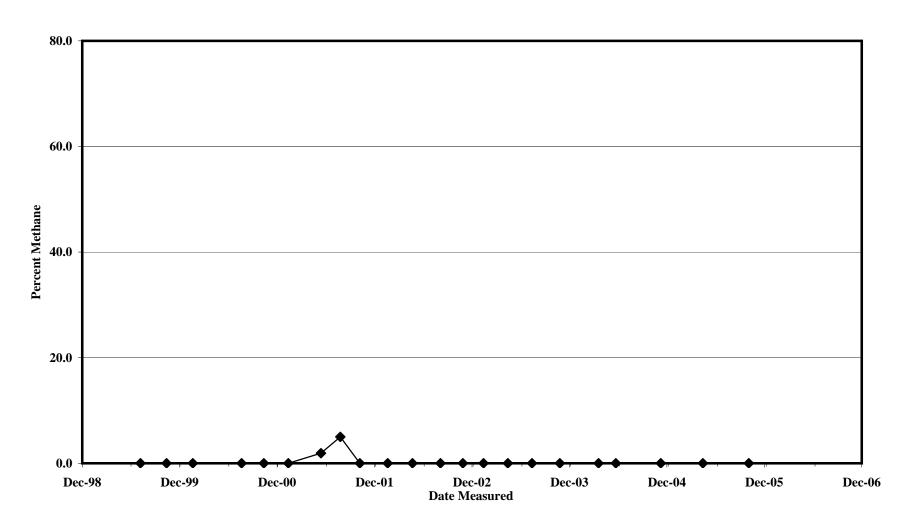


FIGURE F-22

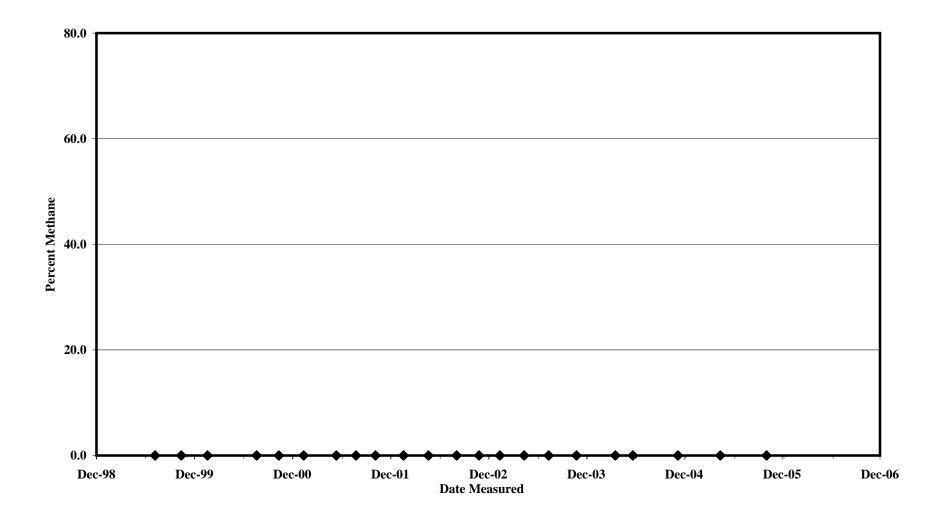
## DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-3



DRAFT SITE 1 LANDFILL 2005 ANNUAL REPORT

FIGURE F-23

TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-4



## **APPENDIX G**

2005 GENERAL SITE INSPECTION REPORTS AND 2005 SANTA CLARA COUNTY LANDFILL INSPECTION REPORTS

2005 GENERAL SITE INSPECTION REPORTS

TABLE 4-1

Site 1 Landfill Post-Closure Long-Term Maintenance Plan					- Idellitigation manage volume
			7	Semiannual	- Procedity cover construct
	<del> -</del>		7	Semiannual	- College Contact Condition
			7	Semiannual	Concrete collar condition
					Collection Trench Wells
			1	Semiannual	Well locks
			7	Semiannual	
			7	Semiannual	
			7	Semiannual	- Marke collar condition
			7	Semiannual	Traffic protection (i.e. hollards)
			7	Semiannual	Libertification tag present
			7	Semiannual	Direct condition (i.e. paint integrity)
					Landell Cas Monitoring Wells
			7	Semiannual	Screen condition
	,		7	Semiannual	Concrete collar condition
			7	Semiannual	Identification tag present
			7	Semiannual	Piser condition (i.e., paint, integrity)
					Landfill Gas Vents
			1	Seminimar	- Water drainage
VERY WET BUT GOOD DRAININGS			1	Comming	- Cap breaching
		- I	1	Comiannual	- Vegetation control and restoration
			7	Cemiannual	- Visual observations of setting (i.e., cracking, stoughing)
			7	Semiannuai	
			7	Semiannual	- Iso-settlement and set years management settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlement and settlemen
COMPLETED 3/3/03			7	Every 5 Years	Landfill Cap
					- Kapioi peiciles
			7	Semiannual	- KIDIAD
			7	Semiannual	n occurry remembers and service
			1	Semiannual	Convicty fencing and gates
Nows record			\ \ \	Semiannual	Latitum signs
			1	Semiannual	- Fellineter vous
- 1				Semiannual	Designator Road
					Commend Site Conditions
Сонинентя	N/A	Needs Maintenance	Good	Frequency	Trem
	_	Condition			
		Candition			

Site 1 Landfill Post-Closure Long-Term Maintenance Plan Former Naval Air Station Molfett Field DCN: FWSD-RAC-04-2000 CTO No. 0086, Revision 0,'

			Condition		
	Frequency	Good	Needs Maintenance	N/A	Comments
Item					
Well can integrity	Sermannual	7		-	
TITAL ASSESSED	Semiannual	7			
- Water dramage	Semiannual	7	-		
- Well locks	Contraction	ŀ			
Croundwater Monitoring Wells and Piezometers					111-10 NESS PAINTING
Oromitimuse in a material cover)	Semiannual		7		MI-118 118 603 111 1111111111111111111111111111111
Riser condition (i.e., paint, unegany, covey)		7			
- Identification number legibility	Camiannual			; 	100
- Concrete collar condition	Camiannual				
- Traffic protection (i.e., bollards)	O LIMITING T				
Well can integrity	Semaminar	7			
Water drainage	Semiannual	7			
117-11 looks	Semiannual	1			
- WEIL JOCKS					
Stormwater Runoff Control	Semiannual	1			SCREENS IN TLACE
- Water drainage	Semiannual	1			
- Culvert and trench drainage	Camiannia				
- Riprap	CILIGITIANA	1			
	Semiannual	7			
C-Manager City Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Contro	Semiannual	1			
- Settlement					•
Notes:			Misse	20/82/8	65
(1) Emperor indicates minimum requirements. Semiannual		\	1		
(a) Frequency indicates infilialiti requirement of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of			\		

## Notes:

(a) Frequency indicates minimum requirements. Semiannual Inspections also are required after significant storm events and as October reainy season ane in May at the end of the rainy season. inspections will be conducted in March and September, except for the stormwater runoff control, which will be inspected before the

(b) Every 5 years from the previous surveying and iso-settlement mapping.

Abbreviations and Acronyms:

N/A - not applicable

TABLE 4-1

Site 1 Landfill Post-Closure Long-Term Maintenance Plan					- Inclination apparent
			7	Semiannual	Latification number legibility
			5	Semiannual	Drotactive cover condition
			1	Seminamuar	- Concrete collar condition
			+		Collection Trench Wells
			1		- Well locks
			7	Semiannual	- Water drainage
			7	Semiannual	- Well cap integrals
			1	Semiannual	- Collete Collai Committe
			7	Semiannual	Concrete collar condition
	-		1	Sermannual	
			1	Semiannual	- Identification tag present
			1	Semiannual	Riser condition (i.e., paint, integrity)
			+	•	Landfill Gas Monitoring Wells
			ſ	Politicalities	- Screen condition
				Comicannal	- Concrete collar condition
			7	Semiannual	Identification tag present
			7	Semiannual	- Kisel Collumon (n.c., paner, mangaray)
			7	Semiannual	Cities on (i.e. maint integrity)
					Landfill Cas Vents
				COLLEGE	· Water drainage
			7	Semiannia	- Cap breaching
			\	Semiannual	- Vegetation Control and Issuemass
			5	Semiannual	Visual Cook made restoration
			7	Semiannual	Viewal observations of settling (i.e., cracking, sloughing)
			1	Semannual	Frosion
				Every > Years	- Iso-settlement and surveying landfill settlement markers
	-			b	Landfill Cap
				Cissina	- Raptor perches
			1	Comiannial	- Riprap
			1	Camiannia	- Security fencing and gates
ONE SUPE SEEN			7	Semiannual	- Inspect for nesting Owls and Ourself was accessed
- 11				Semiannual	- Landilli signis
Sugar Rugary				Semiannual	Yandall signs
			1	Semiamual	Derimeter Road
					General Site Conditions
				,	Item
Comments	N/A	Needs Maintenance	Good	Frequency	
		Condition			

Site 1 Landfill Post-Closure Long-Term Maintenance Plan Former Naval Air Station Moffett Field DCN: FWSD-RAC-04-2000 CTO No. 0086, Revision 0, 07

# TABLE 4-1

# SITE I LANDFILL GENERAL INSPECTION CHECKLIST AND FREQUENCY

			31.10		
			Condition		
	Frequency	Good	Needs Maintenance	N/A	Comments
Item	A to collection of				
Well can integrity	Semiannuai	7			
Water drainage	Semiannual			1	
Walti Clamos	Semiannual	1			
- YVEITIOUSS					
Groundwater Monitoring Wells and Piezometers					WII-18 NEEDS PAINTING
Riser condition (i.e., paint, integrity, cover)	Semannuai				
Identification number legibility		5			
Concrete collar condition	Semiannual	1			
Testia protection (i.e. hollards)	Semiannual	1			
Well can integrity	Semiannual	7			
Water drainage	Semiannual	7			
- Well locks	Semiannual	7			Same III Pipes
Stormwater Runoff Control					CON SCIUS (12)
Water drainage	Semiannual	1			
Colvert and trench drainage	Semiannual	7			
Rinran	Semiannual	1			
Francian	Semiannual	-			
- Settlement	Semiamnuai				

## Notes:

(a) Frequency indicates minimum requirements. Semiannual inspections will be conducted in March and September, except for the stormwater runoff control, which will be inspected before the October reainy season ane in May at the end of the rainy season. Inspections also are required after significant storm events and as needed.

(b) Every 5 years from the previous surveying and iso-settlement mapping.

Abbreviations and Acronyms:

N/A - not applicable

Site | Landfill Post-C

TABLE 4-1

Site   Landfill Post-Closure Long-Term Maintenance Plan			Sermannual	- Identification number legibility
		1	SCHIMMING	- Protective cover condition
		-	Comingnum	- Concrete collar condition
		7	Semiannual	Collection Trench Weils
		•		- ALCTITOCKS
		1	Sermiannual	Well looks
		7	Semiamual	Water drainage
		1	Semannual	- Well cap integrity
		1	Semannuai	
		1	Semiannual	Traffic protection (i.e., bollards)
		1	Semiannual	- Identification tag present
		7	Semiannual	Diser condition (i.e. paint, integrity)
				I andfill Gos Monitoring Wells
		7	Semiannual	- Collete Contar comme
		1	Semiannual	Concrete coller condition
		7	Semiannual	Identification tag present
		7	Semiamual	niner condition (i.e. paint integrity)
				Landfill Gas Vents
		1	Semiamuai	- Water drainage
		1	Semannual	- Cap breaching
			Semanual	- Vegetation control and restoration
SCHEDIOLES FOR MOWING IN SEPT.	71	k	Semannar	- Visual observations of settling (i.e., cracking, sloughing)
			Comission	- Erosion
			Samiannial .	- Iso-settlement and surveying landfill settlement markers
			Eveny & Veareb	Landfill Cap
				- Kaptor perches
		7	Semiannual	- Kiprap
		7	Semiannual	- Decitify tenents and Same
		7	Semiannual	Courth fencing and gates
THE DESCRIPTION OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF		1	Semiannual	Inspect for pesting owls and burrowing animals
THOU MEAN COAD		7	Semiannual	Tandfill signs
		7	Semiannuai	Perimeter Road
				General Site Conditions
				Item
Comments	Needs Maintenance N/A	Good	Frequency	
	Condition			

Site 1 Landfill Post-Closure Long-Term Maintenance Plan Former Naval Air Station Moffett Field DCN: FWSD-RAC-04-2000 CTO No. 0086, Revision 0, 06/18/04

TABLE 4-1

				Carrie	- Settlement
			-	Semiannial	- ETOSIOI
			1	Semiannual	Program
			1	Semannai	- Riprap
			-	Communicati	- Culvert and trench drainage
				Carniannual	- Water drainage
			1	Semiannial	Stormwater Kunoff Control
			ζ	Semiannual	- Well locks
			1	Semiannual	- Water drainage
				Communicat	- Well cap integrity
			7	Camianina	- Italiic brotection (r.e., oomaros)
			7	Semiannual	The state of a hallarde
			7	Semiannual	Concrete collar condition
					- Identification number legibility
			2		- Kisel condition (no.) bank, most by
			7	Semiannual	Picar condition (i.e. maint integrity, cover)
					Groundwater Monitoring Wells and Piezometers
			7	Semiannual	- Well locks
				Semiamual	- Water drainage
			k	Semannual	- Well cap integrity
					Item
Comments	N/A	Needs Maintenance	Good	Frequency ²	
		Condition			

## Votes:

(a) Frequency indicates minimum requirements. Semiannual inspections will be conducted in March and September, except for the stormwater runoff control, which will be inspected before the October reainy season ane in May at the end of the rainy season. Inspections also are required after significant storm events and as needed.

(b) Every 5 years from the previous surveying and iso-settlement mapping.

Abbreviations and Acronyms:
N/A - not applicable

Site 1 Landfill Post-Closure Long-Fern Mannenance chin				- Identification number legibility
			Semiannual	- Protective cover condition
		1	Semiannual	Concrete contar condition
		5	Semiannual	Collection I entry wens
				- Well locks
			Semiaminar	Well locks
		1	Semiannual	Wester Argingon
		,	Semiannuai	Well can integrity
		,	Schlainian	Concrete collar condition
			Camiannia	Traffic protection (i.e., bollards)
		J	Semiannual	Identification tag present
		7	Semiannual	Riser condition (i.e., paint, integrity)
			Semiamual	Landfill Gas Monitoring Wells
				- Screen condition
		1	Semiannual	- Concrete collar condition
		1	Semannual	- Idelitication in broadition
			Semanular	The different agent sent
		7	Communication	- Riser condition (i.e., paint, integrity)
		7	Semiannual	Landfill Gas Vents
				- Water drainage
		1	Semiannual	- Cap breaching
		1	Semiannual	- Vegetation collect and received
		1	Semiannual	- Visual concentral and restoration
Mowed		1	Semiannual	- cracking, sloughing)
		1	Schrammar	Description
			Every 2 I cate	Iso-settlement and surveying landfill settlement markers
	-	7	E. S. Venreb	Landfill Cap
				- Raptor perches
		7	Semiannual	- Riprap
		1	Semiannual	- Security tencing and gaics
		7	Semiannual	Inspect for nesting owls and outrowns
HOOS SHAPES CRACKED AT BOLTS WITHE		1	Semiannual	Landhil sights
SMALL DIGAREAS & GOADE MOLE		1	Semiannual	- Permeter Koad
			Semianma	General site Continuon
				1(6)11
		L	T. Columna,	
Comments	ance N/A	Good	Bearinger  -	
	Condition			
Control	HECKLIST AND FREE	CTION	HERAL INSPE	SITE I LANDEILL GENERAL INSPECTION CHECKLIST AND EXECUSIVE
MIENCY	Oada wit was the			

Site 1 Landfill Post-Closure Long-Term Maintenance Plan Fornier Naval Air Station Moffett Field DCN: FWSD-RAC-04-2000 CTO No. 0086, Revision 0, 0

# GENERAL INSPECTION CHECKLIST AND FREQUENCY

		1	OCHUMINA	TI COLOR
		·	0	Uton
		١	Semiannual	- Riprap
		フ	Semiannual	- Culvert and trench granage
		7	Semiannual	- Water drainage
		7	Semiannual	Stormwater Runoff Control
SCREUNS STILL IN MARCE				+ Well looks
		1	Selliannan	Well looks
		7	Camaning	Waler dramage
		7	Semiannual	Well cap integrity
		7	Camionnia	Traffic protection (i.e., bollards)
		7	Semiannual	- Concrete collar condition
		7	Semiannual	- Identification ilmitock regression
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		- X13Ct Commer Prothility
		28	Constitution	Piger condition (i.e., paint, integrity, cover)
		7	Semiannual	Groundwater Monitoring Wells and Piezometers
				- Well locks
		7	Semiannual	- Water dialinage
		1	Semianitual	- Well cap integers
			Ochlighten	Wall can integrity
			Semignumal	Item
Collingua	Needs Maintenance IVA	Good Need	Frequency	
Comments	N1/A			
	Condition			
		CITOTA CITE	ERAL INSE	SITE I LANDFILL GENERAL INSPECTION CHECKER'S

## Notes:

- Settlement

(a) Frequency indicates minimum requirements. Semiannual inspections will be conducted in March and September, except for the stormwater runoff control, which will be inspected before the October reainy season ane in May at the end of the rainy season. Inspections also are required after significant storm events and as

(b) Every 5 years from the previous surveying and iso-settlement mapping.

Abbreviations and Acronyms:

N/A - not applicable

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STATE OF CALIFORNIA CRYMB-188 (New 6/04)

### Closed Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency: Santa Clara County, Department of Environmental Health - Local Enforcement Agency Page 1 of DISPECTION DATE FACELTY FILE NUMBER U.S. # PROGRAM.CODE 10:00 AM INSPECTION TIME COCAL * L STATE - S 43-AA-0005 לפיוו LOCAL = L HME CUT 2/23/05 RECEIVED BY (OPERATOR) Large Munchang FACILITY NAME NASA/MOFFETT FIELD - Sites 1 & 22 Landfills OWNER FACILITY LOCATION Moffett Field, CA United States Government NSPECTOR INSPECTOR SIGNATURE ALSO PRESENT Chris Rummel, R.E.H.S. THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CO THE STANDARDS BELOTA ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: VIEWIGATION A HAREA OF CONCERNINA MINOT APPLICABLE POSTCLOSURE V. A. NA DRAINAGE AND EROSION CONTROL Y A NA 20750 - SITE MAINTENANCE 20820 - DRAINAGE/EROSION CONTROL 21180 - POSTCLOSURE MAINTENANCE 21150 - DRAINAGE/EROSION CONTROL 21190 - POSTOLOSURE LAND USE NONTORING AND CONTROL SYSTEMS GAS LICHTORING AND CONTROL SYSTEMS. 20790 - LEACHATE CONTROL 20918 - EXEMPTIONS 20830 - LITTER CONTROL 20919 - GAS CONTROLS 21160 - LF GAS CONTROL/LEACHATE CONTACT 20919.5 - EXPLOSIVE GAS CONTROL SECURITY 20921 - GAS MONITORING CONTROL 20530 - SITE SECURITY 20923 - MONITORING 21135 - SECURITY AT CLOSED SITES 20925 - PERIMETER MONITORING NETWORK 21137 - STRUCTURE REMOVAL 20931 - STRUCTURE MONITORING RECORDS 20932 - MONITORED PARAMETERS 21130 - EMERGENCY RESPONSE PLAN 20933 - MONITORING FREQUENCY 21170 - RECORDING 20934 - REPORTING 21200 - CHANGE OF OWNERSHIP 20937 - CONTROL GLOSURE PLANS Grading/firal cover 21880 - CERTIFICATION OF CLOSURE 20550 - GRADING OF FILL SURFACES 21890 - REVISION OF APPROVED PLANS FOR CIPC MAINT 21140 - FINAL COVER OTHER 21142 - FINAL GRADING 21145 - SLOPE STABILITY COMMENTS (USE CIWMB 3 FOR ADDITIONAL SPACE) SITE 1: Site inspection revealed no problem areas. Site looked excellent. SITE 22: No deficiencies to report. DOCUMENTS RECEIVED SINCE LAST INSPECTION 11/17/04: March 2004 Site 1 Sampling Event, Former NAS Moffett Field tay 2004 Site 1 Sampling Event, Former NAS Moffett Field

STATE OF CALIFORNIA CIWMS-188 (New 6/04)

## **Closed Disposal Site Inspection Report**

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Santa Clara County, Department of Environmental Health - Local Enforcement Agency **Enforcement Agency:** Page 1 of 1 FACILITY FILE MUMBERNAME PROGRAM CODE MAPEUI EM DATE TIME IN INSPECTION TIME 10:00 AM LOCAL # L STATE # S OT IN 43-AA-0005 LOCAL = L TIME OUT 5/18/05 12:00 hrs. RECEIVED BY (OPERATOR FACILITY NAME NASA/MOFFETT FIELD - Sites 1 & 22 Landfills Llan OWNER FACILITY LOCATION Moffett Field, CA United States Government INSPECTOR INSPECTOR SIGNATURE -Chris Rummel, R.E.H.S. Bill Oale & David THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIMISION 30 OF PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR). THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE OSTOLOSURE. V A NA ERAINAGE AND EROSION CONTROL 20750 - SITE MAINTENANCE 20820 - DRAINAGE/EROSION CONTROL 21180 - POSTCLOSURE MAINTENANCE 21150 - DRAINAGE/EROSION CONTROL 21190 - POSTCLOSURE LAND USE ACHITORING AND CONTROL SYSTEMS GAS MONITORING AND CONTROL SYSTEMS 20790 - LEACHATE CONTROL 20918 - EXEMPTIONS 20830 - LITTER CONTROL 20919 - GAS CONTROLS 21160 - LF GAS CONTROL/LEACHATE CONTACT 20919.5 - EXPLOSIVE GAS CONTROL SECURITY 20921 - GAS MONITORING/CONTROL 20530 - SITE SECURITY 20923 - MONITORING 21135 - SECURITY AT CLOSED SITES 20925 - PERIMETER MONITORING NETWORK 21137 - STRUCTURE REMOVAL 20931 - STRUCTURE MONITORING RECORDS 20932 - MONITORED PARAMETERS 21130 - EMERGENCY RESPONSE PLAN 20933 - MONITORING FREQUENCY 21170 - RECORDING 20934 - REPORTING 21200 - CHANGE OF OWNERSHIP 20937 - CONTROL CLOSURE PLANS GRADING/FINAL COVER 21880 - CERTIFICATION OF CLOSURE 20650 - GRADING OF FILL SURFACES 21890 - REVISION OF APPROVED PLANS FOR C/PC MAINT 21140 - FINAL COVER OTHER 21142 - FINAL GRADING 21145 - SLOPE STABILITY COMMENTS (USE CIWMB 3 FOR ADDITIONAL SPACE) SITE 1: Site inspection revealed no problem areas. Site looked excellent. SITE 22: No deficiencies to report. DOCUMENTS RECEIVED SINCE LAST INSPECTION 2/23/05: March 18,2005 Final Site 1 Landfill Post-Closure Long-Term Monitoring Plan Rev.0 March 18,2005 Final Site 1 Landfill Post-Closure Long-Term Maintenance Plan Rev.0 March 31, 2005 Groundwater Report Operable Unit 1, Rev. 0

STATE OF CALIFORNIA CIWM8-188 (New 6/04)

## Closed Disposal Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

FACILITY FILE NUMBER/Unit #	PROGRAM CODE LOCAL = L STATE = S	INSPECTION DAT	E YY	TIME IN	10:00 AM	INSPECTION TIME
43-AA-0005	LOCAL = L	8/24/05		TIME OUT	12:00	
FACILITY NAME	NASA/MOFFETT F	FIELD - Sites 1 & 22	Landfills	RECEIVED BY Gary Mune	(OPERATOR) ekawa	1 Mandigues
FACILITY LOCATION		fett Field, CA	4	OWNER	United States	$T^{*}$
INSPECTOR Chris Rummel, R.E.	.H.S.	HOW From	J _	ALSO PRESE Bill		mith, Quan Mai
THE ABOVE FACILITY WAS INSPECTED FO			IC RESOURCE	S CODE (PRC) A	ND TITLE 27 CALIFORNI	A CODE OF REGULATION (CCR

POSTCLOSURE	γ	A	ΙĀ
20750 - SITE MAINTENANCE			
21180 - POSTCLOSURE MAINTENANCE			
21190 - POSTCLOSURE LAND USE	$\top$		
GAS MONITORING AND CONTROL SYSTEMS			
20918 - EXEMPTIONS	T		_
20919 - GAS CONTROLS			
20919.5 - EXPLOSIVE GAS CONTROL			
20921 - GAS MONITORING/CONTROL			
20923 - MONITORING			
20925 - PERIMETER MONITORING NETWORK			
20931 - STRUCTURE MONITORING			
20932 - MONITORED PARAMETERS			
20933 - MONITORING FREQUENCY			
20934 - REPORTING			
20937 - CONTROL		$\Box$	
GRADING/FINAL COVER			•
20650 - GRADING OF FILL SURFACES			
21140 - FINAL COVER			
21142 - FINAL GRADING			
21145 - SLOPE STABILITY		L[	

DRAINAGE AND EROSION CONTROL	. V	Α	"NA
20820 - DRAINAGE/EROSION CONTROL			
21150 - DRAINAGE/EROSION CONTROL			Г
MONITORING AND CONTROL SYSTEMS			
20790 - LEACHATE CONTROL			Γ.
20830 - LITTER CONTROL			Г
21160 - LF GAS CONTROLILEACHATE CONTACT			
SECURITY			
20530 - SITE SECURITY			
21135 - SECURITY AT CLOSED SITES			
21137 - STRUCTURE REMOVAL		L	L
RECORDS			
21130 - EMERGENCY RESPONSE PLAN			L
21170 - RECORDING			
21200 - CHANGE OF OWNERSHIP			L.
CLOSURE PLANS			
21880 - CERTIFICATION OF CLOSURE		L	L
21890 - REVISION OF APPROVED PLANS FOR C/PC MAINT	ŀ		
OTHER		_	_
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SITE 1: Site inspection revealed no problem areas. Site looked excellent.	
Gas vents were tested during the inspection using a portable methane gas detector with the following re-	sults:
GV-3 = 0 ppm, GV-4 = 0 ppm, GV-5 = 7% gas, GV-7 = 44% gas, GV-8 = 40% gas, GV-10 = 60%LEL,	GV-11 = 38% gas,
3V-12 = 1 to 3% LEL.	
SITE 22: No deficiencies to report.	
Perimeter methane gas monitoring well in the permieter road, LGMW-3 was found to have a 3% gas rea	iding when stablized,
with an intial spike during purging at ranges up to 20% gas by volume. Previous testing of this well by F	oster Wheeler indicated
he same reading of 3% gas. The limit for perimeter gas migration is 5% gas at the facility boundary, wh	nich in this case is not
at the perimeter of the waste, but rather the property boundary. Thus, reading of this well above 5% gas	are not necessarily a
violation.	
Note: Semi-annual monitoring plan with sampling in February and August is appropriate.	
DOCUMENTS RECEIVED SINCE LAST INSPECTION 5/18/05:	
June 22, 2005 Site 1 Landfill - 2004 Annual Report-Draft	
Aug. 12, 2005 Site 22 Post Construction Operatuins, Maintenance, and Monitoring Plan Addendum - Re	ev. 0 -Draft

STATE OF CALIFORNIA CIWMB-188 (New 6/04)

## **Closed Disposal Site Inspection Report**

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Santa Clara County, Department of Environmental Health - Local Enforcement Agency Enforcement Agency: Page 1 of 1 FACILITY FILE NUMBER/Unit# .. PROGRAM CODE INSPECTION TIME MSPECTION DATE TIME IN 10:00 AM 00.20 MM LOCAL = L STATE = S TIME OUT 43-AA-0005 LOCAL = L 11/16/05 12:00 RECEIVED BY (OPERATOR) NASA/MOFFETT FIELD - Sites 1 & 22 Landfills FACILITY NAME Gary Munekawa OWNER FACILITY LOCATION Moffett Field, CA **United States Government** INSPECTOR/SIZNATURE INSPECTOR ALSO PRESENT Chris Rummel, R.E.H.S. Bill Ogle, David Smith THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF PUBLIC HESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR). THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN INA = NOT APPLICABLE POSTCLOSURE 20750 - SITE MAINTENANCE DRAINAGE AND EROSION CONTROL 20820 - DRAINAGE/EROSION CONTROL 21150 - DRAINAGE/EROSION CONTROL 21180 - POSTCLOSURE MAINTENANCE 21190 - POSTCLOSURE LAND USE MONITORING AND CONTROL SYSTEMS GAS MONITORING AND CONTROL SYSTEMS 20790 - LEACHATE CONTROL 20918 - EXEMPTIONS 20830 - LITTER CONTROL 21160 - LF GAS CONTROLLEACHATE CONTACT 20919 - GAS CONTROLS 20919.5 - EXPLOSIVE GAS CONTROL SECURITY 20921 - GAS MONITORING/CONTROL 20530 - SITE SECURITY 20923 - MONITORING 21135 - SECURITY AT CLOSED SITES 20925 - PERIMETER MONITORING NETWORK 21137 - STRUCTURE REMOVAL 20931 - STRUCTURE MONITORING RECORDS 2 20932 - MONITORED PARAMETERS 21130 - EMERGENCY RESPONSE PLAN 20933 - MONITORING FREQUENCY 21170 - RECORDING 20934 - REPORTING 21200 - CHANGE OF OWNERSHIP 20937 - CONTROL CLOSURE PLANS GRADING/FINAL COVER 21880 - CERTIFICATION OF CLOSURE 21890 - REVISION OF APPROVED PLANS FOR CIPC MAINT 20650 - GRADING OF FILL SURFACES OTHER 21140 - FINAL COVER 21142 - FINAL GRADING 21145 - SLOPE STABILITY COMMENTS (USE CIVMB 3 FOR ADDITIONAL SPACE) SITE 1: Site inspection revealed no problem areas. Site looked excellent. SITE 22: No deficiencies to report. DOCUMENTS RECEIVED SINCE LAST INSPECTION 8/24/05: None

# APPENDIX H CORRESPONDENCE



Protection

## California Regional Water Quality Control Board

San Francisco Bay Region

1515 Clay Street, Suite 1400, Oakland, California 94612 (510) 622-2300 • Fax (510) 622-2460 http://www.swrcb.ca.gov/rwqcb2



Date:

MAY 1 2 2005

File No.: 2189.8009 (AVC)

Base Realignment and Closure Program Management Office West Attn: Mr. Richard Weissenborn, Lead RPM 1230 Columbia Street, Suite 1100 San Diego, CA 92101-8517

Subject: Concurrence on the Final Site 1 Landfill Post-Closure Long-Term Monitoring

Plan, Former Naval Air Station Moffett Field, Moffett Field, California, Revision

0, dated March 18, 2004

Dear Mr. Weissenborn:

Thank you for the Final Site 1 Landfill Post-Closure Long Term Monitoring Plan, Former Naval Air Station Moffett Field, Moffett Field, California, Revision 0, dated March 18, 2005. received on March 21, 2005, by the San Francisco Bay Regional Water Quality Control Board (Water Board). Water Board staff has thoroughly reviewed the final document and this letter presents our concurrence on the long term monitoring plan.

Please don't hesitate to call me at (510) 622-2353 or E-mail to AConstantinescu@waterboards.ca.gov if you would like to discuss this letter further.

Sincerely,

Adriana Constantinescu, PG Project Manager - Moffett Field

A Pontentiuteu

cc: Ms. Lida Tan, Project Manager EPA

Ms. Sandy Olliges, Env. Services Director, NASA

Mr. Bob Moss, RAB Chairperson

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## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION IX

### 75 Hawthorne Street San Francisco, CA 94105

May 26, 2005

Mr. Rick Weissenborn
BRAC Environmental Coordinator
Southwest Division
Naval Facilities Engineering Command
BRAC Operation Office
1230 Columbia Street, Suite 1100
San Diego, CA 92101-0961

RE: EPA Concurrence – Final Site 1 Landfill Post-Closure Long-Term Monitoring and Maintenance Plans dated March 18, 200⁵, Former Moffett Federal Airfield, Moffett, California

Dear Mr. Weissenborn:

The U.S. Environmental Protection Agency (EPA) received the Final Site 1 Landfill Post-Closure Long-Term Monitoring and Maintenance Plans dated March 18, 2005. EPA comments on the draft reports (September 14, 2004) have been adequately discussed and addressed in the draft final documents. EPA have no more comments on the subject reports.

If you have any questions, please feel free to call me at (415) 972-3018, or contact me by email at tan.lida@epa.gov.

Sincerely.

Lida Tan

Remedial Project Manager

Superfund Federal Facility Branch

EPA Region 9

cc:

Ms. Adriana Constantinescu Regional Water Quality Control Board San Francisco Bay Region Mr. Don Chuck NASA M/S 218-1 Ames Research Center Moffett Field, CA 94035

Ms. Mary Parker
Remedial Project Manager
Southwest Division
Naval Facilities Engineering Command
BRAC Operation Office
230 Columbia Street, Suite 1100
San Diego, CA 92101-0961

Mr. Chris Rummel
Department of Environmental Health
County of Santa Clara Environmental Resources Agency
P.O. Box 28070
San Jose, 95159-4206

Mr. Tom Mohr Santa Clara Valley Water District 5750 Almaden Expressway San Jose, CA 95118-3686